

CK0407SQPC

4" SQUARE DIRECT

4" square x 7" high surface mount cylinder luminaire designed for general illumination in spaces with exposed conduit and 4" surface-mounted octagonal junction boxes.

LUMENS / WATTAGE DATA

PART NUMBER	DELIVERED LUMENS ¹	SYSTEM WATTS	LPW
CK0407SQPC10L	523	6.7	78
CK0407SQPC15L	694	9.5	73
CK0407SQPC20L	977	13.2	74
CK0407SQPC30L	1386	17.8	78

¹ Nominal Delivered Lumens at 35K MD xx NL xx MW

FEATURES

Spectrum's Cylinder series provides traditional architectural style with high performance and energy efficient illumination. Rugged design with flexible mounting, finish and LED options make these extremely versatile fixtures. Integral LED driver. Quick change LED module for job site flexibility and fixture upgrade.

FINISH

Multi-stage polyester powder-coat process applied on our dedicated paint lines. See mounting and color pages for standard finishes. All exposed materials are chromate pretreated to resist corrosion.

ELECTRONICS

LED module features state of the art, high efficiency LEDs. 3-step MacAdam Ellipse binning with 82 and 92 CRI available. DS2W1 MLV/ELV phase cut driver dims smooth to 1%. 0-10V 1% 120V and 277V options.

CONSTRUCTION

Fixtures are machined in our factory from 6063-H32 high purity aluminum extrusions. Specular primary optical reflectors provide high efficiency illumination. Plated steel hardware with galvanized steel brackets to resist corrosion. Machined conduit clearance slots are 1.125" wide and are offered in a variety of patterns.

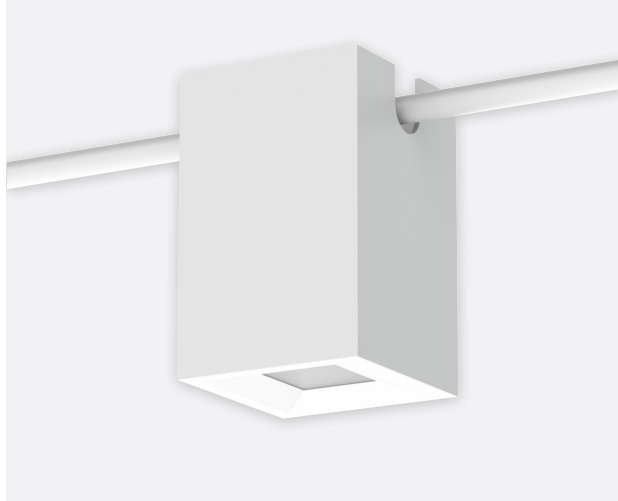
CODE COMPLIANCE

BAA compliant. ETL certified to meet US and Canadian standards. Suitable for dry or damp locations. Manufactured and tested to UL standards No. 1598/8750.

PROJECT:

QUANTITY:

TYPE:



PRODUCT SELECTOR GUIDE

SERIES	LUMENS ¹	CCT	OPTICS	DRIVER / VOLTAGE	OPTIONS	MOUNTING	FINISH	EMERGENCY BATTERY OPTIONS
CK0407SQPC								+

EXAMPLE

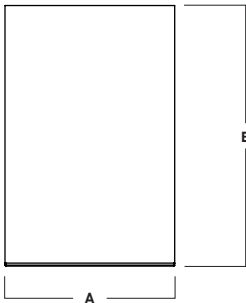
CK0407SQPC	10L	35K	MD	EX	SO	CS2	MW	+
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SERIES	LUMENS ¹	CCT	OPTICS	DRIVER / VOLTAGE ⁵	LENS	MOUNTING ^{7/8}	FINISH ⁹	EMERGENCY BATTERY OPTIONS ¹¹
CK0407SQPC	10L 500 Lm	82 CRI	ND 25°	EX Electronic Driver, 120V/277V	SO ⁶ Micro Prism Solite™	CS1 1x Conduit Feed	MW ¹⁰ Matte White	EMRM ¹¹ 7W Remote EM
	15L 700 Lm	27K 2700K	MD 31°	DO10X ² 1%, 0-10V, 120V/277V	GL Lens Clear Glass Lens	CS2 2x Conduit Feed, Straight	MB ¹⁰ Matte Black	EMEN ¹¹ 7W Remote with Enclosure
	20L 1000 Lm	30K 3000K	WD 40°			CS3 2x Conduit Feed, 90° Corner	PT ¹⁰ Platinum Silver	
	30L ^{2/3} 1400 Lm	35K 3500K	XW 56°	DS2W1 ³ ELV/MLV, 120V		CS4 3x Conduit Feed, T Pattern	CC Custom Color	
		40K 4000K						
		92 CRI		EXEM ⁴ Electronic Driver, 120V/277V				
		27HK 2700K		DO10XEM ⁴ 1%, 0-10V, 120V/277V				
		30HK 3000K		DS2W1EM ⁴ ELV/MLV, 120V				
		35HK 3500K						
		40HK 4000K						
	1 Nominal Delivered Lumens at Any CCT 2 30L DO10K Will Dim to 5% 3 30L option is not compatible with DS2W1				2 30L DO10K Will Dim to 5% 3 30L option is not compatible with DS2W1 4 Must Select These When Selecting EMRM or EMEN 5 Contact Factory for Additional Options	6 Standard Lens	7 See Second Page for Details on Components and Patterns 8 Junction box and conduit by others	9 Reference Color Sheet Located on Product Webpage for Full List of Available Colors/ Consult Factory for Special Finishes 10 Standard Finishes
11 Must Select Either EMRM or EMEN when Choosing One of EXEM/DO10KEM/DS2W1EM								



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FIXTURE DIMENSIONS



A	B
4.5 114.3 mm	7.1 180.3 mm

Fixture Weight: 5.5 lbs

FINISH

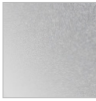
MW
Matte White



MB
Matte Black



PT
Platinum Silver



CC
Custom Color



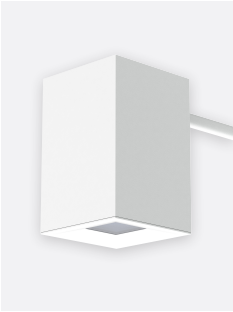
PAINT TIMES

TIER	COST	AVERAGE PAINT TIME*
Tier 1 - Standard Finishes	\$	
Custom Color	Contact Factory	Contact Factory

*CONTACT FACTORY FOR SPECIFIC PRODUCT LEAD TIMES

MOUNTING TYPES

CS1
1x CONDUIT FEED



CS2
2x CONDUIT FEED, STRAIGHT



CS3
3x CONDUIT FEED, 90° CORNER



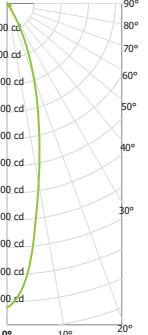
CS4
4x CONDUIT FEED, T PATTERN



CS5
5x CONDUIT FEED, X PATTERN



CK0407SQPC 30L 35K ND xx NL xx MW

CANDLEPOWER CURVE TEST SP-01449_M-30L	INTENSITY CANDELA 0° AZIMUTH	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE HORIZONTAL FOOTCANDLES INITIAL DOWNLIGHT ONLY	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES HORIZONTAL FOOTCANDLES AND WATTS/SQ FT										
	0°	0° - 10° 331 24%	Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge	Ceiling Height	Fixture Spacing	RCR 4		RCR 6			
	0° 4487	0° - 20° 806 58%	6.5 ' 106 fc	2.9 ' 50 fc	14' 4'	90 1.27	60 0.94							
	5° 3862	0° - 30° 1142 82%	7.5 ' 80 fc	3.3 ' 37 fc	18' 5'	47 0.66	49 0.77							
	15° 1810	0° - 40° 1255 91%	8.5 ' 62 fc	3.7 ' 29 fc	22' 6'	38 0.53	30 0.47							
	25° 647	0° - 60° 1323 96%	10.0 ' 45 fc	4.4 ' 21 fc	Delivered Illuminance Rating: (DIR)		71 FC per W/Sq. Ft.		64 FC per W/Sq. Ft.					
	35° 97	0° - 80° 1367 99%	12.0 ' 31 fc	5.3 ' 15 fc										
	45° 22	0° - 90° 1372 99%	14.0 ' 23 fc	6.1 ' 11 fc	1' Suspension Length to luminous aperture Square rooms used for multiple units: RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50 RCR 6: Length & Width = Ceiling Ht. - 3.5' x 1.66 + Average Initial Footcandles at 2.5' Above Floor									
	55° 52	Total 1384 100%	16.0 ' 18 fc	7.0 ' 8 fc										
	90° 2		20.0 ' 11 fc	8.8 ' 5 fc										

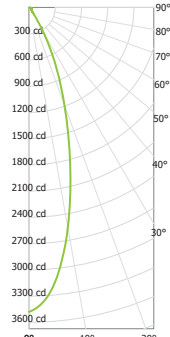
Delivered Lumens: 1384
Luminaire Watts: 17.8
LER: 77.75

CP at 0° (Nadir): 4487
CRI: 80

Beam Angle: 25°
Spacing Ratio: 0.41

Lumen Multiplier: 10L x 0.34, 15L x 0.49, 20L x 0.67
CCT Multiplier: 27K x 0.95, 30K x 0.97, 40K x 1.03

CK0407SQPC 30L 35K MD xx NL xx MW

CANDLEPOWER CURVE TEST SP-01447_M-30L	INTENSITY CANDELA 0° AZIMUTH	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE HORIZONTAL FOOTCANDLES INITIAL DOWNLIGHT ONLY	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES HORIZONTAL FOOTCANDLES AND WATTS/SQ FT										
	0°	0° - 10° 286 21%	Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge	Ceiling Height	Fixture Spacing	RCR 4		RCR 6			
	0° 3479	0° - 20° 771 56%	6.5 ' 82 fc	3.6 ' 37 fc	14' 5'	45 0.65	34 0.53							
	5° 3199	0° - 30° 1128 81%	7.5 ' 62 fc	4.2 ' 28 fc	18' 6'	34 0.49	31 0.49							
	15° 1816	0° - 40° 1257 91%	8.5 ' 48 fc	4.7 ' 22 fc	22' 7'	21 0.30	19 0.30							
	25° 710	0° - 60° 1321 95%	10.0 ' 35 fc	5.6 ' 16 fc	Delivered Illuminance Rating: (DIR)		70 FC per W/Sq. Ft.		64 FC per W/Sq. Ft.					
	35° 108	0° - 80° 1370 99%	12.0 ' 24 fc	6.7 ' 11 fc										
	45° 35	0° - 90° 1374 99%	14.0 ' 18 fc	7.8 ' 8 fc	1' Suspension Length to luminous aperture Square rooms used for multiple units: RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50 RCR 6: Length & Width = Ceiling Ht. - 3.5' x 1.66 + Average Initial Footcandles at 2.5' Above Floor									
	55° 30	Total 1386 100%	16.0 ' 14 fc	8.9 ' 6 fc										
	90° 2		20.0 ' 9 fc	11.2 ' 4 fc										

Delivered Lumens: 1386
Luminaire Watts: 17.8
LER: 77.87

CP at 0° (Nadir): 3479
CRI: 80

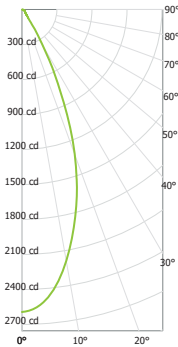
Beam Angle: 31°
Spacing Ratio: 0.51

Lumen Multiplier: 10L x 0.34, 15L x 0.49, 20L x 0.67
CCT Multiplier: 27K x 0.95, 30K x 0.97, 40K x 1.03

HOW TO USE PERFORMANCE DATA

SINGLE UNIT	MULTIPLE UNITS
Cone of Light of a single, symmetrical beam luminaire. Direct initial illumination (FC) and Beam Angle diameter directly beneath fixture; shown at different distances from aperture to horizontal plane. Calculated using Inverse Square Law. $FC_H = CP \times (\cos \theta) \div D^2$ Beam Diam. = $\frac{1}{2}$ Beam Angle (Tan) x 2D • CP Candela at 0° (Nadir) • Cos θ Cosine of θ Angle • D Distance (Mounting Height AFF) • FC_H Footcandles, Horizontal • Beam Angle Cone of light to 50% max. CP • Beam Diam. Pattern of light at Beam Angle	Square grid layout of multiple luminaires in unfurnished, square rooms of different proportions (Room Cavity Ratios) with 80/50/20% room surface reflectances. 2' Suspension Length to aperture. Initial average illumination (FC) calculated at 2.5' above floor, using Zonal Cavity Method. W/Sq. Ft. of layout shown for each ceiling height and RCR. Delivered Illuminance Rating (DIR®): System performance indicator expressed as ratio of approximate initial FC per W/Sq. Ft. delivered to horizontal plane below, for the range of ceiling heights indicated. • To estimate FC for Fixture Spacing that is different than shown (do not exceed Spacing Ratio): $FC = \text{Chart Spacing}^2 \div \text{Different Spacing}^2 \times \text{Chart FC}$ • To estimate Sq. Ft. per fixture for a specific target FC: $\text{Sq. Ft.} / \text{Fixture} = \text{Chart FC} \times \text{Chart Spacing}^2 \div \text{Target FC}$ • To estimate Fixture Quantity in a room: $\text{Fixture Qty.} = \text{Sq. Ft. of Rm.} \div \text{Sq. Ft. per fixture}$ • To estimate Watts/Sq. Ft.: $\text{W/Sq. Ft.} = \text{Luminaire Watts} \times \text{Qty.} \div \text{Sq. Ft. of Rm.}$

CK0407SQPC 30L 35K WD xx NL xx MW

CANDLEPOWER CURVE
TEST SP-01451_M-30LINTENSITY
CANDELA
0° AZIMUTH

0°		0° - 10°	231	16%
0°	2593	0° - 20°	726	52%
5°	2485	0° - 30°	1139	81%
15°	1787	0° - 40°	1282	91%
25°	788	0° - 60°	1350	96%
35°	110	0° - 80°	1389	99%
45°	45	0° - 90°	1392	99%
55°	32			
90°	2	Total	1404	100%

SINGLE UNIT: PERFORMANCE
HORIZONTAL FOOTCANDLES
INITIAL DOWNLIGHT ONLY

Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge
6.5'	61 fc	4.8'	25 fc
7.5'	46 fc	5.5'	19 fc
8.5'	36 fc	6.3'	15 fc
10.0'	26 fc	7.4'	11 fc
12.0'	18 fc	8.8'	7 fc
14.0'	13 fc	10.3'	5 fc
16.0'	10 fc	11.8'	4 fc
20.0'	6 fc	14.7'	3 fc

MULTIPLE UNITS: PERFORMANCE
80/50/20% REFLECTANCES
HORIZONTAL FOOTCANDLES AND WATTS/SQ FT

Ceiling Height	Fixture Spacing	RCR 3		RCR 5	
		FC *	W/Sq. Ft.	FC *	W/Sq. Ft.
10'	4'	71	0.95	64	0.95
14'	6'	39	0.52	24	0.36
18'	8'	21	0.27	23	0.34
Delivered Illuminance Rating: (DIR)		75 FC per W/Sq. Ft.		67 FC per W/Sq. Ft.	
1' Suspension Length to luminous aperture Square rooms used for multiple units: RCR 3: Length & Width = Ceiling Ht. - 3.5' x 3.33 RCR 5: Length & Width = Ceiling Ht. - 3.5' x 2.00 + Average Initial Footcandles at 2.5' Above Floor					

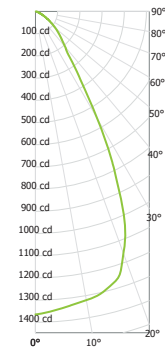
Delivered Lumens: 1404
Luminaire Watts: 17.8
LER: 78.88

CP at 0° (Nadir): 2593
CRI: 80

Beam Angle: 40°
Spacing Ratio: 0.65

Lumen Multiplier: 10L x 0.34, 15L x 0.49, 20L x 0.67
CCT Multiplier: 27K x 0.95, 30K x 0.97, 40K x 1.03

CK0407SQPC 30L 35K XW xx NL xx MW

CANDLEPOWER CURVE
TEST SP-01453_M-30LINTENSITY
CANDELA
0° AZIMUTH

0°		0° - 10°	131	9%
0°	1365	0° - 20°	498	34%
5°	1343	0° - 30°	946	65%
15°	1284	0° - 40°	1201	83%
25°	894	0° - 60°	1399	96%
35°	316	0° - 80°	1438	99%
45°	159	0° - 90°	1441	99%
55°	82			
90°	2	Total	1452	100%

SINGLE UNIT: PERFORMANCE
HORIZONTAL FOOTCANDLES
INITIAL DOWNLIGHT ONLY

Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge
6.5'	32 fc	6.9'	11 fc
7.5'	24 fc	8.0'	8 fc
8.5'	19 fc	9.1'	6 fc
10.0'	14 fc	10.7'	5 fc
12.0'	9 fc	12.8'	3 fc
14.0'	7 fc	15.0'	2 fc
16.0'	5 fc	17.1'	2 fc
20.0'	3 fc	21.4'	1 fc

MULTIPLE UNITS: PERFORMANCE
80/50/20% REFLECTANCES
HORIZONTAL FOOTCANDLES AND WATTS/SQ FT

Ceiling Height	Fixture Spacing	RCR 2		RCR 4	
		FC *	W/Sq. Ft.	FC *	W/Sq. Ft.
10'	6"	34	0.42	42	0.61
14'	8'	19	0.23	16	0.23
18'	10'	13	0.17	8	0.12
Delivered Illuminance Rating: (DIR)		80 FC per W/Sq. Ft.		69 FC per W/Sq. Ft.	
1' Suspension Length to luminous aperture					
Square rooms used for multiple units:					
RCR 2: Length & Width = Ceiling Ht. - 3.5' x 5.00					
RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50					
* Average Initial Footcandles at 2.5' Above Floor					
* Exceeds Spacing Ratio by 1%					

Delivered Lumens: 1452
Luminaire Watts: 17.8
LER: 81.57

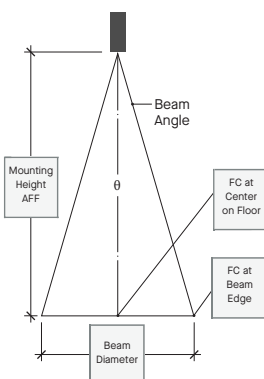
CP at 0° (Nadir): 1365
CRI: 80

Beam Angle: 56°
Spacing Ratio: 0.91

Lumen Multiplier: 10L x 0.34, 15L x 0.49, 20L x 0.67
CCT Multiplier: 27K x 0.95, 30K x 0.97, 40K x 1.03

HOW TO USE PERFORMANCE DATA

SINGLE UNIT



Cone of Light of a single, symmetrical beam luminaire. Direct initial illumination (FC) and Beam Angle diameter directly beneath fixture; shown at different distances from aperture to horizontal plane. Calculated using Inverse Square Law.

$$FC_{H_i} = CP \times (\cos \theta) \div D^2$$

$$\text{Beam Diam.} = \frac{1}{2} \text{ Beam Angle (Tan)} \times 2D$$

- CP Candela at 0° (Nadir)
- Cos θ Cosine of θ Angle
- D Distance (Mounting Height AFF)
- FC_{H_i} Footcandles, Horizontal
- Beam Angle Cone of light to 50% max. CP
- Beam Diam. Pattern of light at Beam Angle

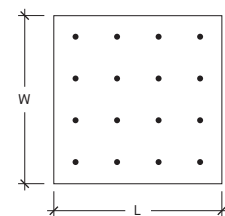
MULTIPLE UNITS

Square grid layout of multiple luminaires in unfurnished, square rooms of different proportions (Room Cavity Ratios) with 80/50/20% room surface reflectances. 2' Suspension Length to aperture. Initial average illumination (FC) calculated at 2.5' above floor, using Zonal Cavity Method. W/Sq. Ft. of layout shown for each ceiling height and RCR.

Delivered Illuminance Rating (DIR®):

System performance indicator expressed as ratio of approximate initial FC per W/Sq. Ft. delivered to horizontal plane below, for the range of ceiling heights indicated.

- To estimate FC for Fixture Spacing that is different than shown (do not exceed Spacing Ratio):
 $FC = \text{Chart Spacing}^2 \div \text{Different Spacing}^2 \times \text{Chart FC}$
- To estimate Sq. Ft. per fixture for a specific target FC:
 $\text{Sq. Ft.} / \text{Fixture} = \text{Chart FC} \times \text{Chart Spacing}^2 \div \text{Target FC}$



- To estimate Fixture Quantity in a room:
 $\text{Fixture Qty.} = \text{Sq. Ft. of Rm.} \div \text{Sq. Ft. per fixture}$
- To estimate Watts/Sq. Ft.:
 $W / \text{Sq. Ft.} = \text{Luminaire Watts} \times \text{Qty.} \div \text{Sq. Ft. of Rm.}$

CK0407SQPC 30L 35K ND xx SO xx MW

CANDLEPOWER CURVE TEST SP-01450_M-30L	INTENSITY CANDELA 0° AZIMUTH	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE HORIZONTAL FOOTCANDLES INITIAL DOWNLIGHT ONLY	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES HORIZONTAL FOOTCANDLES AND WATTS/SQ FT																																																																																																															
	<table><tr><th>0°</th></tr><tr><td>0° 3322</td></tr><tr><td>5° 3011</td></tr><tr><td>15° 1539</td></tr><tr><td>25° 585</td></tr><tr><td>35° 134</td></tr><tr><td>45° 50</td></tr><tr><td>55° 48</td></tr><tr><td>90° 2</td></tr></table>	0°	0° 3322	5° 3011	15° 1539	25° 585	35° 134	45° 50	55° 48	90° 2	<table><tr><td>0° - 10°</td><td>264</td><td>21%</td></tr><tr><td>0° - 20°</td><td>695</td><td>55%</td></tr><tr><td>0° - 30°</td><td>990</td><td>78%</td></tr><tr><td>0° - 40°</td><td>1113</td><td>88%</td></tr><tr><td>0° - 60°</td><td>1207</td><td>96%</td></tr><tr><td>0° - 80°</td><td>1249</td><td>99%</td></tr><tr><td>0° - 90°</td><td>1252</td><td>99%</td></tr><tr><td>Total</td><td>1263</td><td>100%</td></tr></table>	0° - 10°	264	21%	0° - 20°	695	55%	0° - 30°	990	78%	0° - 40°	1113	88%	0° - 60°	1207	96%	0° - 80°	1249	99%	0° - 90°	1252	99%	Total	1263	100%	<table><tr><th>Mounting Distance</th><th>FC at Beam Center</th><th>Diameter at Beam Angle</th><th>FC at Beam Edge</th></tr><tr><td>6.5 ' </td><td>79 fc</td><td>3.3 ' </td><td>36 fc</td></tr><tr><td>7.5 ' </td><td>59 fc</td><td>3.8 ' </td><td>27 fc</td></tr><tr><td>8.5 ' </td><td>46 fc</td><td>4.3 ' </td><td>21 fc</td></tr><tr><td>10.0 ' </td><td>33 fc</td><td>5.0 ' </td><td>15 fc</td></tr><tr><td>12.0 ' </td><td>23 fc</td><td>6.0 ' </td><td>11 fc</td></tr><tr><td>14.0 ' </td><td>17 fc</td><td>7.0 ' </td><td>8 fc</td></tr><tr><td>16.0 ' </td><td>13 fc</td><td>8.0 ' </td><td>6 fc</td></tr><tr><td>20.0 ' </td><td>8 fc</td><td>10.0 ' </td><td>4 fc</td></tr></table>	Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge	6.5 '	79 fc	3.3 '	36 fc	7.5 '	59 fc	3.8 '	27 fc	8.5 '	46 fc	4.3 '	21 fc	10.0 '	33 fc	5.0 '	15 fc	12.0 '	23 fc	6.0 '	11 fc	14.0 '	17 fc	7.0 '	8 fc	16.0 '	13 fc	8.0 '	6 fc	20.0 '	8 fc	10.0 '	4 fc	<table><tr><th>Ceiling Height</th><th>Fixture Spacing</th><th colspan="2">RCR 4</th><th colspan="2">RCR 6</th></tr><tr><td></td><td></td><td>FC +</td><td>W/Sq. Ft.</td><td>FC +</td><td>W/Sq. Ft.</td></tr><tr><td>14' </td><td>4' </td><td>59</td><td>0.93</td><td>54</td><td>0.94</td></tr><tr><td>18' </td><td>5' </td><td>42</td><td>0.66</td><td>44</td><td>0.77</td></tr><tr><td>22' </td><td>6' </td><td>26</td><td>0.41</td><td>27</td><td>0.47</td></tr><tr><td colspan="2">Delivered Illuminance Rating: (DIR)</td><td colspan="2">64 FC per W/Sq. Ft.</td><td colspan="2">57 FC per W/Sq. Ft.</td></tr><tr><td colspan="6">1' Suspension Length to luminous aperture Square rooms used for multiple units: RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50 RCR 6: Length & Width = Ceiling Ht. - 3.5' x 1.66 + Average Initial Footcandles at 2.5' Above Floor</td></tr></table>	Ceiling Height	Fixture Spacing	RCR 4		RCR 6				FC +	W/Sq. Ft.	FC +	W/Sq. Ft.	14'	4'	59	0.93	54	0.94	18'	5'	42	0.66	44	0.77	22'	6'	26	0.41	27	0.47	Delivered Illuminance Rating: (DIR)		64 FC per W/Sq. Ft.		57 FC per W/Sq. Ft.		1' Suspension Length to luminous aperture Square rooms used for multiple units: RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50 RCR 6: Length & Width = Ceiling Ht. - 3.5' x 1.66 + Average Initial Footcandles at 2.5' Above Floor					
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5° 3011																																																																																																																			
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25° 585																																																																																																																			
35° 134																																																																																																																			
45° 50																																																																																																																			
55° 48																																																																																																																			
90° 2																																																																																																																			
0° - 10°	264	21%																																																																																																																	
0° - 20°	695	55%																																																																																																																	
0° - 30°	990	78%																																																																																																																	
0° - 40°	1113	88%																																																																																																																	
0° - 60°	1207	96%																																																																																																																	
0° - 80°	1249	99%																																																																																																																	
0° - 90°	1252	99%																																																																																																																	
Total	1263	100%																																																																																																																	
Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge																																																																																																																
6.5 '	79 fc	3.3 '	36 fc																																																																																																																
7.5 '	59 fc	3.8 '	27 fc																																																																																																																
8.5 '	46 fc	4.3 '	21 fc																																																																																																																
10.0 '	33 fc	5.0 '	15 fc																																																																																																																
12.0 '	23 fc	6.0 '	11 fc																																																																																																																
14.0 '	17 fc	7.0 '	8 fc																																																																																																																
16.0 '	13 fc	8.0 '	6 fc																																																																																																																
20.0 '	8 fc	10.0 '	4 fc																																																																																																																
Ceiling Height	Fixture Spacing	RCR 4		RCR 6																																																																																																															
		FC +	W/Sq. Ft.	FC +	W/Sq. Ft.																																																																																																														
14'	4'	59	0.93	54	0.94																																																																																																														
18'	5'	42	0.66	44	0.77																																																																																																														
22'	6'	26	0.41	27	0.47																																																																																																														
Delivered Illuminance Rating: (DIR)		64 FC per W/Sq. Ft.		57 FC per W/Sq. Ft.																																																																																																															
1' Suspension Length to luminous aperture Square rooms used for multiple units: RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50 RCR 6: Length & Width = Ceiling Ht. - 3.5' x 1.66 + Average Initial Footcandles at 2.5' Above Floor																																																																																																																			

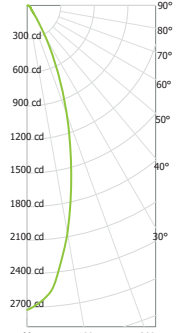
Delivered Lumens: 1263
Luminaire Watts: 17.8
LER: 70.96

CP at 0° (Nadir): 3322
CRI: 80

Beam Angle: 28°
Spacing Ratio: 0.46

Lumen Multiplier: 10L x 0.34, 15L x 0.49, 20L x 0.67
CCT Multiplier: 27K x 0.95, 30K x 0.97, 40K x 1.03

CK0407SQPC 30L 35K MD xx SO xx MW

CANDLEPOWER CURVE TEST SP-01448_M-30L	INTENSITY CANDELA 0° AZIMUTH	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE HORIZONTAL FOOTCANDLES INITIAL DOWNLIGHT ONLY	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES HORIZONTAL FOOTCANDLES AND WATTS/SQ FT										
	0°	0° - 10° 230 19%	Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge	Ceiling Height	Fixture Spacing	RCR 4		RCR 6			
	0° 2722	0° - 20° 654 53%	6.5 ' 64 fc	3.9 ' 28 fc	14' 5'	40	0.65	30	0.53					
	5° 2550	0° - 30° 964 78%	7.5 ' 48 fc	4.5 ' 21 fc	18' 6'	30	0.49	28	0.49					
	15° 1518	0° - 40° 1098 88%	8.5 ' 38 fc	5.1 ' 17 fc	22' 7'	19	0.30	17	0.30					
	25° 630	0° - 60° 1187 96%	10.0 ' 27 fc	5.9 ' 12 fc	Delivered Illuminance Rating: (DIR)		62 FC per W/Sq. Ft.		56 FC per W/Sq. Ft.					
	35° 156	0° - 80° 1225 99%	12.0 ' 19 fc	7.1 ' 8 fc										
	45° 52	0° - 90° 1229 99%	14.0 ' 14 fc	8.3 ' 6 fc	1' Suspension Length to luminous aperture Square rooms used for multiple units: RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50 RCR 6: Length & Width = Ceiling Ht. - 3.5' x 1.66 + Average Initial Footcandles at 2.5' Above Floor									
	55° 37	Total 1241 100%	16.0 ' 11 fc	9.5 ' 5 fc										
	90° 2		20.0 ' 7 fc	11.9 ' 3 fc										

Delivered Lumens: 1241
Luminaire Watts: 17.8
LER: 69.72

CP at 0° (Nadir): 2722
CRI: 80

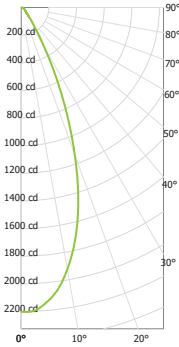
Beam Angle: 33°
Spacing Ratio: 0.54

Lumen Multiplier: 10L x 0.34, 15L x 0.49, 20L x 0.67
CCT Multiplier: 27K x 0.95, 30K x 0.97, 40K x 1.03

HOW TO USE PERFORMANCE DATA

SINGLE UNIT	MULTIPLE UNITS
Cone of Light of a single, symmetrical beam luminaire. Direct initial illumination (FC) and Beam Angle diameter directly beneath fixture; shown at different distances from aperture to horizontal plane. Calculated using Inverse Square Law. $FC_H = CP \times (\cos \theta) \div D^2$ Beam Diam. = $\frac{1}{2}$ Beam Angle (Tan) x 2D • CP Candela at 0° (Nadir) • Cos θ Cosine of θ Angle • D Distance (Mounting Height AFF) • FC_H Footcandles, Horizontal • Beam Angle Cone of light to 50% max. CP • Beam Diam. Pattern of light at Beam Angle	Square grid layout of multiple luminaires in unfurnished, square rooms of different proportions (Room Cavity Ratios) with 80/50/20% room surface reflectances. 2' Suspension Length to aperture. Initial average illumination (FC) calculated at 2.5' above floor, using Zonal Cavity Method. W/Sq. Ft. of layout shown for each ceiling height and RCR. Delivered Illuminance Rating (DIR®): System performance indicator expressed as ratio of approximate initial FC per W/Sq. Ft. delivered to horizontal plane below, for the range of ceiling heights indicated. • To estimate FC for Fixture Spacing that is different than shown (do not exceed Spacing Ratio): $FC = \text{Chart Spacing}^2 \div \text{Different Spacing}^2 \times \text{Chart FC}$ • To estimate Sq. Ft. per fixture for a specific target FC: $\text{Sq. Ft.} / \text{Fixture} = \text{Chart FC} \times \text{Chart Spacing}^2 \div \text{Target FC}$ • To estimate Fixture Quantity in a room: $\text{Fixture Qty.} = \text{Sq. Ft. of Rm.} \div \text{Sq. Ft. per fixture}$ • To estimate Watts/Sq. Ft.: $\text{W/Sq. Ft.} = \text{Luminaire Watts} \times \text{Qty.} \div \text{Sq. Ft. of Rm.}$

CK0407SQPC 30L 35K WD xx SO xx MW

CANDLEPOWER CURVE
TEST SP-01452_M-30LINTENSITY
CANDELA
0° AZIMUTH

0°	
0°	2202
5°	2139
15°	1579
25°	683
35°	159
45°	54
55°	33
90°	2

ZONAL LUMENS

0° - 10°	198	16%
0° - 20°	625	49%
0° - 30°	975	77%
0° - 40°	1123	89%
0° - 60°	1211	96%
0° - 80°	1247	99%
0° - 90°	1251	99%
Total	1264	100%

SINGLE UNIT: PERFORMANCE
HORIZONTAL FOOTCANDLES
INITIAL DOWNLIGHT ONLY

Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge
6.5'	52 fc	4.8'	21 fc
7.5'	39 fc	5.6'	16 fc
8.5'	30 fc	6.3'	13 fc
10.0'	22 fc	7.4'	9 fc
12.0'	15 fc	8.9'	6 fc
14.0'	11 fc	10.4'	5 fc
16.0'	9 fc	11.9'	4 fc
20.0'	6 fc	14.8'	2 fc

MULTIPLE UNITS: PERFORMANCE
80/50/20% REFLECTANCES
HORIZONTAL FOOTCANDLES AND WATTS/SQ FT

Ceiling Height	Fixture Spacing	RCR 3		RCR 5	
		FC +	W/Sq. Ft.	FC +	W/Sq. Ft.
10'	4'	64	0.95	56	0.95
14'	6'	35	0.52	22	0.36
18'	8'	18	0.27	20	0.34
Delivered Illuminance Rating: (DIR)		67 FC per W/Sq. Ft.		60 FC per W/Sq. Ft.	
1' Suspension Length to luminous aperture Square rooms used for multiple units: RCR 3: Length & Width = Ceiling Ht. - 3.5' x 3.33 RCR 5: Length & Width = Ceiling Ht. - 3.5' x 2.00 + Average Initial Footcandles at 2.5' Above Floor					

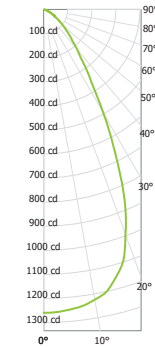
Delivered Lumens: 1264
Luminaire Watts: 17.8
LER: 71.01

CP at 0° (Nadir): 2202
CRI: 80

Beam Angle: 41°
Spacing Ratio: 0.66

Lumen Multiplier: 10L x 0.34, 15L x 0.49, 20L x 0.67
CCT Multiplier: 27K x 0.95, 30K x 0.97, 40K x 1.03

CK0407SQPC 30L 35K XW xx SO xx MW

CANDLEPOWER CURVE
TEST SP-01454_M-30LINTENSITY
CANDELA
0° AZIMUTH

0°	
0°	1260
5°	1251
15°	1153
25°	749
35°	320
45°	153
55°	72
90°	2

ZONAL LUMENS

0° - 10°	121	9%
0° - 20°	445	35%
0° - 30°	811	63%
0° - 40°	1045	81%
0° - 60°	1234	96%
0° - 80°	1273	99%
0° - 90°	1277	99%
Total	1290	100%

SINGLE UNIT: PERFORMANCE
HORIZONTAL FOOTCANDLES
INITIAL DOWNLIGHT ONLY

Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge
6.5'	30 fc	6.7'	11 fc
7.5'	22 fc	7.7'	8 fc
8.5'	17 fc	8.7'	6 fc
10.0'	13 fc	10.3'	4 fc
12.0'	9 fc	12.3'	3 fc
14.0'	6 fc	14.4'	2 fc
16.0'	5 fc	16.4'	2 fc
20.0'	3 fc	20.5'	1 fc

MULTIPLE UNITS: PERFORMANCE
80/50/20% REFLECTANCES
HORIZONTAL FOOTCANDLES AND WATTS/SQ FT

Ceiling Height	Fixture Spacing	RCR 2		RCR 4	
		FC *	W/Sq. Ft.	FC *	W/Sq. Ft.
10'	6"	30	0.42	37	0.61
14'	8'	17	0.23	14	0.23
18'	10'	12	0.17	7	0.12
Delivered Illuminance Rating: (DIR)		71 FC per W/Sq. Ft.		61 FC per W/Sq. Ft.	
1' Suspension Length to luminous aperture					
Square rooms used for multiple units:					
RCR 2: Length & Width = Ceiling Ht. - 3.5' x 5.00					
RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50					
+ Average Initial Footcandles at 2.5' Above Floor					
* Exceeds Spacing Ratio by 6%					

Delivered Lumens: 1290
Luminaire Watts: 17.8
LER: 72.47

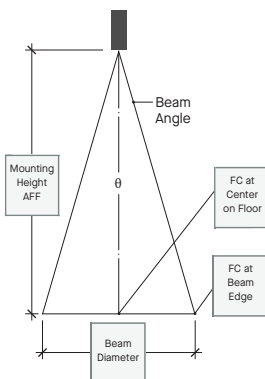
CP at 0° (Nadir): 1260
CRI: 80

Beam Angle: 54°
Spacing Ratio: 0.87

Lumen Multiplier: 10L x 0.34, 15L x 0.49, 20L x 0.67
CCT Multiplier: 27K x 0.95, 30K x 0.97, 40K x 1.03

HOW TO USE PERFORMANCE DATA

SINGLE UNIT



Cone of Light of a single, symmetrical beam luminaire. Direct initial illumination (FC) and Beam Angle diameter directly beneath fixture; shown at different distances from aperture to horizontal plane. Calculated using Inverse Square Law.

$$FC_{H} = CP \times (\cos \theta) \div D^2$$

$$\text{Beam Diam.} = \frac{1}{2} \text{ Beam Angle (Tan)} \times 2D$$

- CP Candela at 0° (Nadir)
- Cos θ Cosine of θ Angle
- D Distance (Mounting Height AFF)
- FC_{H} Footcandles, Horizontal
- Beam Angle Cone of light to 50% max. CP
- Beam Diam. Pattern of light at Beam Angle

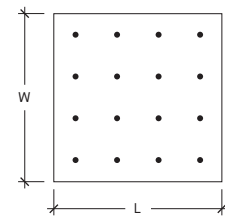
MULTIPLE UNITS

Square grid layout of multiple luminaires in unfurnished, square rooms of different proportions (Room Cavity Ratios) with 80/50/20% room surface reflectances. 2' Suspension Length to aperture. Initial average illumination (FC) calculated at 2.5' above floor, using Zonal Cavity Method. W/Sq. Ft. of layout shown for each ceiling height and RCR.

Delivered Illuminance Rating (DIR®):

System performance indicator expressed as ratio of approximate initial FC per W/Sq. Ft. delivered to horizontal plane below, for the range of ceiling heights indicated.

- To estimate FC for Fixture Spacing that is different than shown (do not exceed Spacing Ratio):
 $FC = \text{Chart Spacing}^2 \div \text{Different Spacing}^2 \times \text{Chart FC}$
- To estimate Sq. Ft. per fixture for a specific target FC:
 $\text{Sq. Ft.} / \text{Fixture} = \text{Chart FC} \times \text{Chart Spacing}^2 \div \text{Target FC}$



- To estimate Fixture Quantity in a room:
 $\text{Fixture Qty.} = \text{Sq. Ft. of Rm.} \div \text{Sq. Ft. per fixture}$
- To estimate Watts/Sq. Ft.:
 $W / \text{Sq. Ft.} = \text{Luminaire Watts} \times \text{Qty.} \div \text{Sq. Ft. of Rm.}$