

CK0407PC

4" ROUND DIRECT

4" round 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
CK0407PC10L	778	6.7	116
CK0407PC15L	1038	9.5	109
CK0407PC20L	1424	13.2	108
CK0407PC30L	1949	17.8	109

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.

PRODUCT SELECTOR GUIDE

SERIES	LUMENS ¹	CCT	OPTICS	DRIVER / VOLTAGE	OPTIONS	MOUNTING	FINISH	EMERGENCY BATTERY OPTIONS
CK0407PC								

EXAMPLE

CK0407PC	10L	35K	MD	EX	SO	CS2	MW	
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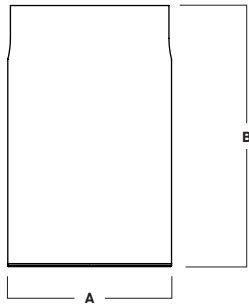
SERIES	LUMENS ¹	CCT	OPTICS	DRIVER / VOLTAGE ⁵	LENS	MOUNTING ^{7/8}	FINISH ⁹	EMERGENCY BATTERY OPTIONS ¹¹	
CK0407PC	10L	800 Lm	82 CRI	EX	SO ⁶	CS1	MW ⁹	EMRM ¹¹	
	15L	1050 Lm	27K						2700K
	20L	1400 Lm	30K	3000K	DO10X ²	GL	CS2	EMEN ¹¹	
	30L ^{2/3}	1950 Lm	35K	3500K					WD
			40K	4000K	DS2W1 ³		CS3		
			92 CRI						XW
			27HK	2700K	EXEM ⁴	ELV/MLV, 120V	CS5	CC	
			30HK	3000K	DO10XEM ⁴				
			35HK	3500K	DS2W1EM ⁴	ELV/MLV, 120V			
			40HK	4000K					
¹ Nominal Delivered Lumens at Any CCT ² 30L, DO10X Will Dim to 5% ³ 30L option is not compatible with DS2W1				⁴ Must Select When Selected EMRM or EMEN ⁵ Emergency Battery Options ⁶ Contact Factory for Additional Options		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	
				⁶ Standard Lens				¹¹ Must Select Either EMRM or EMEN when Choosing One of EXEM/DO10XEM/DS2W1EM	

PROJECT: _____
 QUANTITY: _____ TYPE: _____



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FIXTURE DIMENSIONS



A	B
4.5 114.3 mm	7.1 180.3 mm

Fixture Weight: 3.8 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



CK0407PC 30L 35K ND xx NL xx MW

CANDLEPOWER CURVE TEST SP-01441_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° 515 27%	<table border="1"> <thead> <tr> <th>Mounting Distance</th> <th>FC at Beam Center</th> <th>Diameter at Beam Angle</th> <th>FC at Beam Edge</th> </tr> </thead> <tbody> <tr><td>6.5'</td><td>164 fc</td><td>2.7'</td><td>77 fc</td></tr> <tr><td>7.5'</td><td>123 fc</td><td>3.1'</td><td>58 fc</td></tr> <tr><td>8.5'</td><td>96 fc</td><td>3.5'</td><td>45 fc</td></tr> <tr><td>10.0'</td><td>69 fc</td><td>4.1'</td><td>33 fc</td></tr> <tr><td>12.0'</td><td>48 fc</td><td>4.9'</td><td>23 fc</td></tr> <tr><td>14.0'</td><td>35 fc</td><td>5.7'</td><td>17 fc</td></tr> <tr><td>16.0'</td><td>27 fc</td><td>6.6'</td><td>13 fc</td></tr> <tr><td>20.0'</td><td>17 fc</td><td>8.2'</td><td>8 fc</td></tr> </tbody> </table>	Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge	6.5'	164 fc	2.7'	77 fc	7.5'	123 fc	3.1'	58 fc	8.5'	96 fc	3.5'	45 fc	10.0'	69 fc	4.1'	33 fc	12.0'	48 fc	4.9'	23 fc	14.0'	35 fc	5.7'	17 fc	16.0'	27 fc	6.6'	13 fc	20.0'	17 fc	8.2'	8 fc	<table border="1"> <thead> <tr> <th rowspan="2">Ceiling Height</th> <th rowspan="2">Fixture Spacing</th> <th colspan="2">RCR 4</th> <th colspan="2">RCR 6</th> </tr> <tr> <th>FC +</th> <th>W/Sq. Ft.</th> <th>FC +</th> <th>W/Sq. Ft.</th> </tr> </thead> <tbody> <tr><td>14'</td><td>4'</td><td>128</td><td>1.27</td><td>87</td><td>0.94</td></tr> <tr><td>18'</td><td>5'</td><td>67</td><td>0.66</td><td>71</td><td>0.77</td></tr> <tr><td>22'</td><td>6'</td><td>54</td><td>0.53</td><td>44</td><td>0.47</td></tr> </tbody> </table>	Ceiling Height	Fixture Spacing	RCR 4		RCR 6		FC +	W/Sq. Ft.	FC +	W/Sq. Ft.	14'	4'	128	1.27	87	0.94	18'	5'	67	0.66	71	0.77	22'	6'	54	0.53	44	0.47
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0° 6944	0° - 20° 1185 61%	0° - 30° 1640 85%	Delivered Illuminance Rating: (DIR)	101 FC per W/Sq. Ft.	93 FC per W/Sq. Ft.																																																															
5° 6041	0° - 30° 1640 85%	0° - 40° 1864 97%	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																																																																	
15° 2395	0° - 40° 1864 97%	0° - 60° 1901 98%																																																																		
25° 962	0° - 60° 1901 98%	0° - 80° 1917 99%																																																																		
35° 334	0° - 80° 1917 99%	0° - 90° 1920 99%																																																																		
45° 24	0° - 90° 1920 99%	Total 1930 100%																																																																		
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Delivered Lumens: 1930
Luminaire Watts: 17.8
LER: 108.43

CP at 0° (Nadir): 6944
CRI: 80

Beam Angle: 23°
Spacing Ratio: 0.39

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

CK0407PC 30L 35K MD xx NL xx MW

CANDLEPOWER CURVE TEST SP-01439_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																																																																
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0° 5725	0° - 20° 1176 60%	0° - 30° 1643 84%	Delivered Illuminance Rating: (DIR)	102 FC per W/Sq. Ft.	93 FC per W/Sq. Ft.																																																															
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15° 2575	0° - 40° 1879 96%	0° - 60° 1920 98%																																																																		
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Delivered Lumens: 1949
Luminaire Watts: 17.8
LER: 109.49

CP at 0° (Nadir): 5725
CRI: 80

Beam Angle: 28°
Spacing Ratio: 0.47

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
<p>One 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.</p> $FC_{H} = CP \times (\cos \theta) \div D^2$ <p>Beam Diam. = 1/2 Beam Angle (Tan) x 2D</p> <ul style="list-style-type: none"> • 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 	<p>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.</p> <p>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.</p> <ul style="list-style-type: none"> • 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 FC, Sq. Ft. per fixture for a specific target FC: $\text{Sq. Ft.} / \text{Fixture} = \text{Chart FC} \times \text{Chart Spacing}^2 \div \text{Target FC}$ <ul style="list-style-type: none"> • 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.: $W / \text{Sq. Ft.} = \text{Luminaire Watts} \times \text{Qty.} \div \text{Sq. Ft. of Rm.}$

CKO407PC 30L 35K WD xx NL xx MW

CANDLEPOWER CURVE TEST SP-01443_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																																																																	
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Delivered Lumens: 1958
Luminaire Watts: 17.8
LER: 110.00

CP at 0° (Nadir): 4109
CRI: 80

Beam Angle: 37°
Spacing Ratio: 0.58

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

CKO407PC 30L 35K XW xx NL xx MW

CANDLEPOWER CURVE TEST SP-01445_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° 164 9%	<table border="1"> <thead> <tr> <th>Mounting Distance</th> <th>FC at Beam Center</th> <th>Diameter at Beam Angle</th> <th>FC at Beam Edge</th> </tr> </thead> <tbody> <tr><td>6.5'</td><td>41 fc</td><td>8.1'</td><td>13 fc</td></tr> <tr><td>7.5'</td><td>31 fc</td><td>9.3'</td><td>10 fc</td></tr> <tr><td>8.5'</td><td>24 fc</td><td>10.6'</td><td>7 fc</td></tr> <tr><td>10.0'</td><td>17 fc</td><td>12.5'</td><td>5 fc</td></tr> <tr><td>12.0'</td><td>12 fc</td><td>14.9'</td><td>4 fc</td></tr> <tr><td>14.0'</td><td>9 fc</td><td>17.4'</td><td>3 fc</td></tr> <tr><td>16.0'</td><td>7 fc</td><td>19.9'</td><td>2 fc</td></tr> <tr><td>20.0'</td><td>4 fc</td><td>24.9'</td><td>1 fc</td></tr> </tbody> </table>	Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge	6.5'	41 fc	8.1'	13 fc	7.5'	31 fc	9.3'	10 fc	8.5'	24 fc	10.6'	7 fc	10.0'	17 fc	12.5'	5 fc	12.0'	12 fc	14.9'	4 fc	14.0'	9 fc	17.4'	3 fc	16.0'	7 fc	19.9'	2 fc	20.0'	4 fc	24.9'	1 fc	0° - 20° 590 32%	<table border="1"> <thead> <tr> <th rowspan="2">Ceiling Height</th> <th rowspan="2">Fixture Spacing</th> <th colspan="2">RCR 2</th> <th colspan="2">RCR 4</th> </tr> <tr> <th>FC +</th> <th>W/Sq. Ft.</th> <th>FC +</th> <th>W/Sq. Ft.</th> </tr> </thead> <tbody> <tr><td>10'</td><td>6'</td><td>43</td><td>0.42</td><td>53</td><td>0.61</td></tr> <tr><td>14'</td><td>8'</td><td>24</td><td>0.23</td><td>20</td><td>0.23</td></tr> <tr><td>18'</td><td>10'</td><td>17</td><td>0.17</td><td>11</td><td>0.12</td></tr> </tbody> </table>	Ceiling Height	Fixture Spacing	RCR 2		RCR 4		FC +	W/Sq. Ft.	FC +	W/Sq. Ft.	10'	6'	43	0.42	53	0.61	14'	8'	24	0.23	20	0.23	18'	10'	17	0.17	11	0.12
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0° 1749	0° - 30° 1161 64%	<table border="1"> <thead> <tr> <th>Delivered Illuminance Rating: (DIR)</th> <th>101 FC per W/Sq. Ft.</th> <th>87 FC per W/Sq. Ft.</th> </tr> </thead> <tbody> <tr> <td colspan="3"> 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 </td> </tr> </tbody> </table>	Delivered Illuminance Rating: (DIR)	101 FC per W/Sq. Ft.	87 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																																																															
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25° 1259	0° - 80° 1801 99%																																																																				
35° 640	0° - 90° 1804 99%																																																																				
45° 182	Total 1817 100%																																																																				
55° 84																																																																					
90° 2																																																																					

Delivered Lumens: 1817
Luminaire Watts: 17.8
LER: 102.08

CP at 0° (Nadir): 1749
CRI: 80

Beam Angle: 64°
Spacing Ratio: 0.98

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
<p>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.</p> $FC_{H} = CP \times (\cos \theta) \div D^2$ $\text{Beam Diam.} = \frac{1}{2} \text{Beam Angle (Tan } \theta) \times 2D$ <ul style="list-style-type: none"> - 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 	<p>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.</p> <p>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.</p> <ul style="list-style-type: none"> - 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: $\text{Sq. Ft.} / \text{Fixture} = \text{Chart FC} \times \text{Chart Spacing}^2 \div \text{Target FC}$ <ul style="list-style-type: none"> - 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.: $W / \text{Sq. Ft.} = \text{Luminaire Watts} \times \text{Qty.} \div \text{Sq. Ft. of Rm.}$

CK0407PC 30L 35K ND xx SO xx MW

CANDLEPOWER CURVE TEST SP-01442_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° 413 24%	Mounting Distance	<table border="1"> <thead> <tr> <th rowspan="2">Ceiling Height</th> <th rowspan="2">Fixture Spacing</th> <th colspan="2">RCR 4</th> <th colspan="2">RCR 6</th> </tr> <tr> <th>FC +</th> <th>W/Sq. Ft.</th> <th>FC +</th> <th>W/Sq. Ft.</th> </tr> </thead> <tbody> <tr> <td>14'</td> <td>4'</td> <td>84</td> <td>0.93</td> <td>77</td> <td>0.94</td> </tr> <tr> <td>18'</td> <td>5'</td> <td>60</td> <td>0.66</td> <td>63</td> <td>0.77</td> </tr> <tr> <td>22'</td> <td>6'</td> <td>48</td> <td>0.53</td> <td>39</td> <td>0.47</td> </tr> <tr> <td colspan="2">Delivered Illuminance Rating: (DIR)</td> <td colspan="2">90 FC per W/Sq. Ft.</td> <td colspan="2">82 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> </tbody> </table>	Ceiling Height	Fixture Spacing	RCR 4		RCR 6		FC +	W/Sq. Ft.	FC +	W/Sq. Ft.	14'	4'	84	0.93	77	0.94	18'	5'	60	0.66	63	0.77	22'	6'	48	0.53	39	0.47	Delivered Illuminance Rating: (DIR)		90 FC per W/Sq. Ft.		82 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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	0° 5349	0° - 20° 1020 58%	6.5'		127 fc	3.0'	59 fc																																					
	5° 4731	0° - 30° 1430 82%	7.5'		95 fc	3.4'	44 fc																																					
	15° 2191	0° - 40° 1618 92%	8.5'		74 fc	3.9'	34 fc																																					
	25° 886	0° - 60° 1708 97%	10.0'		53 fc	4.6'	25 fc																																					
35° 290	0° - 80° 1737 99%	12.0'	37 fc	5.5'	17 fc																																							
45° 70	0° - 90° 1740 99%	14.0'	27 fc	6.4'	13 fc																																							
55° 31	Total 1752 100%	16.0'	21 fc	7.3'	10 fc																																							
90° 2		20.0'	13 fc	9.1'	6 fc																																							

Delivered Lumens: 1752
Luminaire Watts: 17.8
LER: 98.43

CP at 0° (Nadir): 5349
CRI: 80

Beam Angle: 26°
Spacing Ratio: 0.43

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

CK0407PC 30L 35K MD xx SO xx MW

CANDLEPOWER CURVE TEST SP-01440_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																																								
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	0° 4564	0° - 20° 1015 57%	6.5'		108 fc	3.5'	48 fc																																					
	5° 4272	0° - 30° 1453 81%	7.5'		81 fc	4.1'	36 fc																																					
	15° 2333	0° - 40° 1661 92%	8.5'		63 fc	4.6'	28 fc																																					
	25° 933	0° - 60° 1756 98%	10.0'		46 fc	5.5'	20 fc																																					
35° 311	0° - 80° 1782 99%	12.0'	32 fc	6.6'	14 fc																																							
45° 76	0° - 90° 1785 99%	14.0'	23 fc	7.6'	10 fc																																							
55° 30	Total 1796 100%	16.0'	18 fc	8.7'	8 fc																																							
90° 2		20.0'	11 fc	10.9'	5 fc																																							

Delivered Lumens: 1796
Luminaire Watts: 17.8
LER: 100.90

CP at 0° (Nadir): 4564
CRI: 80

Beam Angle: 31°
Spacing Ratio: 0.50

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
<p>One 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.</p> $FC_{H} = CP \times (\cos \theta) \div D^2$ <p>Beam Diam. = 1/2 Beam Angle (Tan) x 2D</p> <ul style="list-style-type: none"> • 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 	<p>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.</p> <p>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.</p> <ul style="list-style-type: none"> • To estimate FC for Fixture Spacing that is different than shown (do not exceed Spacing Ratio): FC = Chart Spacing² ÷ Different Spacing² x Chart FC • To estimate FC, Sq. Ft. per fixture for a specific target FC: Sq. Ft. / Fixture = Chart FC x Chart Spacing² ÷ Target FC • To estimate Fixture Quantity in a room: Fixture Qty. = Sq. Ft. of Rm. ÷ Sq. Ft. per fixture • To estimate Watts/Sq. Ft.: W/ Sq. Ft. = Luminaire Watts x Qty. ÷ Sq. Ft. of Rm.

CKO407PC 30L 35K WD xx SO xx MW

CANDLEPOWER CURVE TEST SP-01444_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° 304 17%	<table border="1"> <thead> <tr> <th>Mounting Distance</th> <th>FC at Beam Center</th> <th>Diameter at Beam Angle</th> <th>FC at Beam Edge</th> </tr> </thead> <tbody> <tr><td>6.5'</td><td>82 fc</td><td>4.5'</td><td>35 fc</td></tr> <tr><td>7.5'</td><td>62 fc</td><td>5.2'</td><td>26 fc</td></tr> <tr><td>8.5'</td><td>48 fc</td><td>5.9'</td><td>20 fc</td></tr> <tr><td>10.0'</td><td>35 fc</td><td>7.0'</td><td>15 fc</td></tr> <tr><td>12.0'</td><td>24 fc</td><td>8.4'</td><td>10 fc</td></tr> <tr><td>14.0'</td><td>18 fc</td><td>9.8'</td><td>7 fc</td></tr> <tr><td>16.0'</td><td>14 fc</td><td>11.2'</td><td>6 fc</td></tr> <tr><td>20.0'</td><td>9 fc</td><td>14.0'</td><td>4 fc</td></tr> </tbody> </table>	Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge	6.5'	82 fc	4.5'	35 fc	7.5'	62 fc	5.2'	26 fc	8.5'	48 fc	5.9'	20 fc	10.0'	35 fc	7.0'	15 fc	12.0'	24 fc	8.4'	10 fc	14.0'	18 fc	9.8'	7 fc	16.0'	14 fc	11.2'	6 fc	20.0'	9 fc	14.0'	4 fc	<table border="1"> <thead> <tr> <th rowspan="2">Ceiling Height</th> <th rowspan="2">Fixture Spacing</th> <th colspan="2">RCR 3</th> <th colspan="2">RCR 5</th> </tr> <tr> <th>FC +</th> <th>W/Sq. Ft.</th> <th>FC +</th> <th>W/Sq. Ft.</th> </tr> </thead> <tbody> <tr><td>10'</td><td>4"</td><td>92</td><td>0.95</td><td>82</td><td>0.95</td></tr> <tr><td>14'</td><td>6'</td><td>51</td><td>0.52</td><td>31</td><td>0.36</td></tr> <tr><td>18'</td><td>8'</td><td>27</td><td>0.27</td><td>29</td><td>0.34</td></tr> </tbody> </table>				Ceiling Height	Fixture Spacing	RCR 3		RCR 5		FC +	W/Sq. Ft.	FC +	W/Sq. Ft.	10'	4"	92	0.95	82	0.95	14'	6'	51	0.52	31	0.36	18'	8'	27	0.27	29	0.34
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0° 3478	0° - 20° 919 51%	10.0'	35 fc	Delivered Illuminance Rating: (DIR) 97 FC per W/Sq. Ft. 86 FC per W/Sq. Ft.																																																																			
5° 3325	0° - 30° 1429 79%	12.0'	24 fc	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 * Exceeds Spacing Ratio by 1%																																																																			
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45° 78	0° - 90° 1786 99%	Total	1799 100%																																																																				
55° 25																																																																							
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Delivered Lumens: 1799
Luminaire Watts: 17.8
LER: 101.07

CP at 0° (Nadir): 3478
CRI: 80

Beam Angle: 39°
Spacing Ratio: 0.61

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

CKO407PC 30L 35K XW xx SO xx MW

CANDLEPOWER CURVE TEST SP-01446_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° 146 9%	<table border="1"> <thead> <tr> <th>Mounting Distance</th> <th>FC at Beam Center</th> <th>Diameter at Beam Angle</th> <th>FC at Beam Edge</th> </tr> </thead> <tbody> <tr><td>6.5'</td><td>37 fc</td><td>7.4'</td><td>12 fc</td></tr> <tr><td>7.5'</td><td>28 fc</td><td>8.6'</td><td>9 fc</td></tr> <tr><td>8.5'</td><td>22 fc</td><td>9.7'</td><td>7 fc</td></tr> <tr><td>10.0'</td><td>16 fc</td><td>11.4'</td><td>5 fc</td></tr> <tr><td>12.0'</td><td>11 fc</td><td>13.7'</td><td>4 fc</td></tr> <tr><td>14.0'</td><td>8 fc</td><td>16.0'</td><td>3 fc</td></tr> <tr><td>16.0'</td><td>6 fc</td><td>18.3'</td><td>2 fc</td></tr> <tr><td>20.0'</td><td>4 fc</td><td>22.9'</td><td>1 fc</td></tr> </tbody> </table>	Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge	6.5'	37 fc	7.4'	12 fc	7.5'	28 fc	8.6'	9 fc	8.5'	22 fc	9.7'	7 fc	10.0'	16 fc	11.4'	5 fc	12.0'	11 fc	13.7'	4 fc	14.0'	8 fc	16.0'	3 fc	16.0'	6 fc	18.3'	2 fc	20.0'	4 fc	22.9'	1 fc	<table border="1"> <thead> <tr> <th rowspan="2">Ceiling Height</th> <th rowspan="2">Fixture Spacing</th> <th colspan="2">RCR 2</th> <th colspan="2">RCR 4</th> </tr> <tr> <th>FC +</th> <th>W/Sq. Ft.</th> <th>FC +</th> <th>W/Sq. Ft.</th> </tr> </thead> <tbody> <tr><td>10'</td><td>6"</td><td>37</td><td>0.42</td><td>46</td><td>0.61</td></tr> <tr><td>14'</td><td>8'</td><td>20</td><td>0.23</td><td>18</td><td>0.23</td></tr> <tr><td>18'</td><td>10'</td><td>15</td><td>0.17</td><td>9</td><td>0.12</td></tr> </tbody> </table>				Ceiling Height	Fixture Spacing	RCR 2		RCR 4		FC +	W/Sq. Ft.	FC +	W/Sq. Ft.	10'	6"	37	0.42	46	0.61	14'	8'	20	0.23	18	0.23	18'	10'	15	0.17	9	0.12
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5° 1530	0° - 30° 992 62%	12.0'	11 fc	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%																																																																			
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Delivered Lumens: 1588
Luminaire Watts: 17.8
LER: 89.21

CP at 0° (Nadir): 1555
CRI: 80

Beam Angle: 60°
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	MULTIPLE UNITS
<p>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.</p> $FC_{H} = CP \times (\cos \theta) \div D^2$ <p>Beam Diam. = 1/2 Beam Angle (Tan) x 2D</p> <ul style="list-style-type: none"> - 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 	<p>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.</p> <p>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.</p> <ul style="list-style-type: none"> - 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: $\text{Sq. Ft.} / \text{Fixture} = \text{Chart FC} \times \text{Chart Spacing}^2 \div \text{Target FC}$ <ul style="list-style-type: none"> - 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.: $W / \text{Sq. Ft.} = \text{Luminaire Watts} \times \text{Qty.} \div \text{Sq. Ft. of Rm.}$