

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CK0407PC 10L 35K WD xx NL xx MW
Nom. 4.5" Diam x 7"H Round Cylinder, Wide Beam

Test Number

SP-01443

Test Date

11/23/2022

The results contained in this report pertain only to this IES file.

Summary of Results

Power

Input Watts	6.7 W
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Lumen Output

Output Lumens	779
Efficacy	116.28 lm/W

Luminous Dimensions

0° - 180° Size	-0.38
90° - 270° Size	-0.38
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.59
Two luminaires, plane 90°	0.58
Four luminaires	0.62

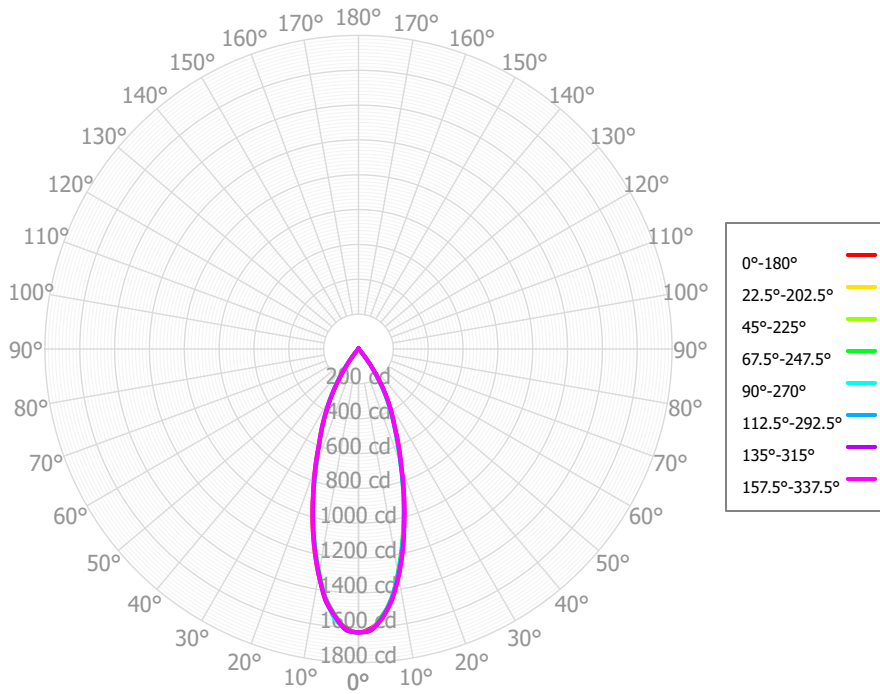
Full Beam Angle

0° - 180°	37°
90° - 270°	36°

IES File Header Contents

Keyword	Value
TEST	SP-01443
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/23/2022
ISSUEDATE	11/23/2022
LUMCAT	CK0407PC 10L 35K WD xx NL xx MW
LUMINAIRE	Nom. 4.5" Diam x 7"H Round Cylinder, Wide Beam
OTHER	No lens, Matte White finish
OTHER	37 Degree Beam Angle
OTHER	Reference Project SL378
LAMP	N/A
LAMPCAT	N/A, Min. 80 CRI
OTHER	Total Luminaire Watts is approximate
OTHER	CCT Multipliers: 27K x 0.95, 30K x 0.97, 40K x 1.03
OTHER	This report prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	141.77	18.20%	90.00° - 100.00°	2.12	0.27%
10.00° - 20.00°	276.73	35.52%	100.00° - 110.00°	2.07	0.27%
20.00° - 30.00°	225.25	28.91%	100.00° - 120.00°	4.03	0.52%
30.00° - 40.00°	98.45	12.64%	120.00° - 130.00°	1.79	0.23%
40.00° - 50.00°	10.53	1.35%	130.00° - 140.00°	1.62	0.21%
50.00° - 60.00°	4.28	0.55%	140.00° - 150.00°	1.37	0.18%
60.00° - 70.00°	3.82	0.49%	150.00° - 160.00°	1.04	0.13%
70.00° - 80.00°	3.07	0.39%	160.00° - 170.00°	0.63	0.08%
80.00° - 90.00°	2.38	0.31%	170.00° - 180.00°	0.21	0.03%
0.00° - 90.00°	766.28	98.36%	0.00° - 180.00°	779.09	100.00%

Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°	112.50°	135.00°	157.50°	180.00°	202.50°	225.00°	247.50°	270.00°	292.50°	315.00°	337.50°	360.00°
0.00°	1626.96	1626.96	1626.96	1626.96	1626.96	1626.96	1626.96	1626.96	1626.96	1626.96	1626.96	1626.96	1626.96	1626.96	1626.96	1626.96	1626.96
2.50°	1604.78	1614.34	1615.68	1615.95	1611.09	1614.88	1615.54	1609.97	1604.96	1615.01	1616.06	1608.33	1610.62	1612.58	1618.00	1613.70	1604.78
5.00°	1553.13	1541.13	1541.44	1538.96	1549.78	1543.12	1543.45	1540.40	1545.72	1540.52	1536.48	1534.49	1558.43	1546.45	1551.90	1553.97	1553.13
7.50°	1447.18	1447.11	1449.60	1453.84	1442.76	1450.84	1456.69	1448.16	1444.98	1457.10	1449.96	1441.69	1445.44	1447.73	1458.62	1457.32	1447.18
10.00°	1323.16	1310.92	1308.85	1303.24	1311.52	1311.43	1314.32	1314.95	1319.45	1316.05	1306.64	1300.98	1313.47	1311.10	1324.98	1325.91	1323.16
12.50°	1170.59	1166.91	1162.96	1152.44	1160.20	1163.48	1166.16	1171.12	1174.32	1172.63	1162.00	1155.30	1161.24	1162.57	1177.48	1177.40	1170.59
15.00°	1013.21	1012.47	1008.32	1000.37	1008.07	1007.79	1013.42	1018.97	1022.39	1017.11	1009.40	1001.56	1005.91	1004.99	1016.14	1018.09	1013.21
17.50°	866.05	864.66	859.43	850.81	855.51	852.55	861.99	865.91	866.91	864.32	859.36	851.98	855.09	854.72	863.75	868.22	866.05
20.00°	721.04	722.64	716.89	709.72	715.53	714.64	721.16	726.60	729.48	723.27	717.05	706.77	707.10	708.12	717.18	722.03	721.04
22.50°	603.75	601.92	594.87	582.65	579.73	583.36	589.65	591.70	597.69	594.44	590.73	588.80	593.92	592.91	599.11	602.87	603.75
25.00°	492.44	493.61	488.13	483.49	483.90	488.19	492.09	495.27	499.23	495.91	494.60	489.56	486.08	487.01	492.61	489.48	492.44
27.50°	411.48	404.37	398.65	393.40	394.80	395.10	396.62	399.75	406.18	401.31	401.42	397.94	404.39	402.32	409.62	408.43	411.48
30.00°	329.40	321.91	317.35	314.87	313.36	308.15	305.60	307.71	313.89	312.78	311.83	309.72	320.85	320.63	332.15	329.96	329.40
32.50°	244.19	240.28	238.10	236.83	232.60	224.80	219.70	219.63	222.84	227.61	227.25	226.36	232.43	237.34	250.07	246.70	244.19
35.00°	164.52	158.80	159.42	159.21	157.40	147.88	140.88	140.54	147.84	145.83	146.65	144.23	152.43	155.71	167.89	165.45	164.52
37.50°	94.36	95.67	97.15	97.24	87.87	85.40	79.40	76.70	79.33	83.35	85.61	84.97	86.18	93.63	101.50	98.14	94.36
40.00°	45.57	35.86	37.07	43.94	47.11	39.57	33.65	34.66	42.73	33.93	34.85	28.22	41.26	39.87	40.97	41.92	45.57
42.50°	20.54	20.91	22.79	21.83	15.85	15.69	13.59	12.04	14.66	14.98	16.22	17.19	19.62	22.73	24.04	22.59	20.54
45.00°	8.43	7.95	10.03	10.21	11.20	8.87	8.66	7.55	9.15	8.98	7.71	7.24	9.23	9.85	10.38	8.98	8.43
47.50°	6.00	6.10	7.21	6.74	7.59	6.24	6.78	5.62	5.65	6.80	6.83	6.44	6.86	7.77	8.03	6.63	6.00
50.00°	4.75	4.70	4.86	4.74	5.76	5.69	6.05	5.28	5.45	5.58	7.13	5.70	5.83	6.11	6.23	5.24	4.75
52.50°	4.08	4.60	4.50	4.43	4.79	5.55	6.10	4.66	5.02	5.26	6.14	5.23	5.40	5.13	5.55	5.08	4.08
55.00°	3.83	4.33	4.27	4.20	4.80	5.53	6.29	3.94	4.33	5.03	5.13	4.87	4.94	4.74	4.95	4.77	3.83
57.50°	3.70	3.76	4.36	4.05	4.71	4.97	5.34	3.81	3.85	4.79	4.70	4.78	4.48	4.97	4.45	4.33	3.70
60.00°	3.85	3.46	4.30	3.88	4.55	4.32	4.34	3.79	3.52	4.56	4.33	4.56	4.34	4.58	4.16	3.98	3.85
62.50°	4.03	3.49	4.03	3.63	4.27	4.34	4.28	3.75	3.49	4.48	4.31	4.18	4.24	3.78	4.05	3.68	4.03
65.00°	3.48	3.62	3.95	3.41	3.92	4.33	4.23	3.71	3.60	4.28	4.18	3.95	4.05	3.50	4.17	3.61	3.48
67.50°	3.01	3.82	4.07	3.32	3.85	3.74	4.24	3.52	3.45	3.67	3.78	3.86	3.83	3.46	4.42	3.63	3.01
70.00°	3.41	3.48	3.69	3.17	3.85	3.23	4.12	3.33	3.23	3.32	3.33	3.74	3.35	3.23	3.81	3.29	3.41
72.50°	3.58	2.87	2.99	2.92	3.38	3.06	3.54	3.15	3.14	3.51	2.80	3.61	2.91	2.96	2.88	2.88	3.58
75.00°	2.78	2.60	2.69	2.79	2.86	2.99	3.11	2.90	3.07	3.30	2.51	3.26	2.69	2.79	2.77	2.69	2.78
77.50°	2.22	2.42	2.58	2.78	2.71	3.16	2.95	2.41	2.86	2.52	2.50	2.82	2.56	2.64	2.81	2.51	2.22
80.00°	2.25	2.31	2.40	2.53	2.56	3.04	2.93	2.02	2.63	2.25	2.33	2.54	2.64	2.68	2.56	2.51	2.25
82.50°	2.24	2.21	2.21	2.10	2.22	2.47	3.08	1.81	2.28	2.47	2.05	2.28	2.51	2.69	2.29	2.45	2.24
85.00°	2.16	1.90	2.26	2.00	1.94	2.08	2.95	1.74	2.02	2.37	2.06	2.26	2.08	2.31	1.91	2.02	2.16
87.50°	2.13	1.63	2.32	2.06	1.85	1.87	2.59	1.86	2.14	2.07	2.20	2.25	1.94	2.03	1.63	1.72	2.13
90.00°	2.16	1.89	1.93	2.07	1.83	1.82	2.28	1.89	2.19	2.08	2.19	2.02	2.08	2.07	1.88	1.79	2.16
92.50°	2.15	2.09	1.60	2.06	1.95	1.90	2.00	1.85	2.08	2.21	2.13	1.78	2.22	2.05	2.09	1.80	2.15
95.00°	2.12	2.05	1.75	2.27	1.94	1.84	1.91	1.84	2.03	1.96	1.85	1.51	2.36	1.90	2.18	1.71	2.12
97.50°	2.06	2.01	1.87	2.50	1.72	1.73	1.89	1.84	2.04	1.64	1.55	1.38	2.20	1.88	2.20	1.70	2.06
100.00°	2.00	1.95	1.89	2.10	1.75	1.90	1.77	1.79	1.96	1.69	1.63	1.71	1.93	2.07	2.07	1.77	2.00

CK0407PC 10L 35K WD xx NL xx MW

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	924	924	924	924	901	901	901	901	859	859	859	819	819	819	783	783	766
	1	885	864	846	830	864	846	830	816	813	800	788	782	772	763	753	746	730
	2	846	812	783	759	828	797	771	749	770	749	731	745	729	714	723	709	694
	3	810	765	730	702	794	753	721	696	731	705	683	711	689	671	693	675	661
	4	775	723	685	655	761	714	678	651	696	666	642	679	654	633	664	642	630
	5	743	685	645	615	730	677	640	612	663	630	606	649	621	599	636	612	601
	6	712	651	610	580	701	644	606	578	632	598	573	620	591	569	610	584	574
	7	683	620	579	550	673	614	575	548	604	569	544	594	563	541	585	558	548
	8	656	591	550	522	647	587	548	521	577	543	518	569	538	515	561	533	524
	9	631	565	525	497	622	561	522	496	553	518	494	546	514	492	539	510	502
	10	607	541	501	475	599	537	499	474	530	496	472	524	493	470	518	489	482

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	53.8 fc	3.7 ft
6.5 ft	38.5 fc	4.3 ft
7.5 ft	28.9 fc	5.0 ft
8.0 ft	25.4 fc	5.3 ft
10.0 ft	16.3 fc	6.7 ft
12.0 ft	11.3 fc	8.0 ft
14.0 ft	8.3 fc	9.3 ft
16.0 ft	6.4 fc	10.7 ft
20.0 ft	4.1 fc	13.3 ft
24.0 ft	2.8 fc	16.0 ft
28.0 ft	2.1 fc	18.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	154415	154415	154415
45.00°	1132	1346	1504
55.00°	633	707	794
65.00°	783	887	881
75.00°	1019	988	1048
85.00°	2348	2458	2113

UGR CIE 190:2010

Ceiling reflectance		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall reflectance		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Plane reflectance		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
2H	2H	-1.1	-0.2	-0.7	0.1	0.5	0.2	1.1	0.6	1.4	1.8
	3H	1.7	2.5	2.1	2.9	3.3	2.6	3.4	3.0	3.8	4.2
	4H	3.0	3.7	3.4	4.1	4.6	3.7	4.4	4.1	4.8	5.3
	6H	4.1	4.8	4.6	5.2	5.6	4.9	5.6	5.4	6.0	6.5
	8H	4.8	5.5	5.3	5.9	6.4	5.6	6.2	6.1	6.7	7.1
	12H	5.7	6.3	6.2	6.7	7.2	6.3	6.9	6.8	7.3	7.8
4H	2H	-0.1	0.7	0.4	1.1	1.5	0.9	1.7	1.4	2.1	2.5
	3H	2.8	3.5	3.3	3.9	4.3	3.6	4.2	4.0	4.6	5.1
	4H	4.2	4.7	4.7	5.2	5.7	4.9	5.4	5.4	5.9	6.4
	6H	5.5	6.0	6.0	6.5	7.0	6.3	6.8	6.8	7.3	7.8
	8H	6.3	6.8	6.8	7.2	7.8	7.1	7.5	7.6	8.0	8.5
	12H	7.3	7.7	7.8	8.2	8.7	7.9	8.2	8.4	8.8	9.3
8H	4H	4.7	5.1	5.2	5.6	6.1	5.3	5.8	5.9	6.3	6.8
	6H	6.3	6.7	6.9	7.2	7.7	7.1	7.5	7.7	8.0	8.5
	8H	7.4	7.7	7.9	8.2	8.7	8.0	8.3	8.6	8.9	9.4
	12H	8.5	8.8	9.1	9.3	9.9	9.1	9.3	9.6	9.8	10.5
12H	4H	4.8	5.2	5.4	5.7	6.2	5.4	5.8	5.9	6.3	6.8
	6H	6.6	6.9	7.1	7.4	8.0	7.3	7.6	7.9	8.1	8.7
	8H	7.7	8.0	8.3	8.5	9.1	8.4	8.6	8.9	9.2	9.8

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0