

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-01439

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	778
Efficacy	116.08 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.47
Two luminaires, plane 90°	0.48
Four luminaires	0.48

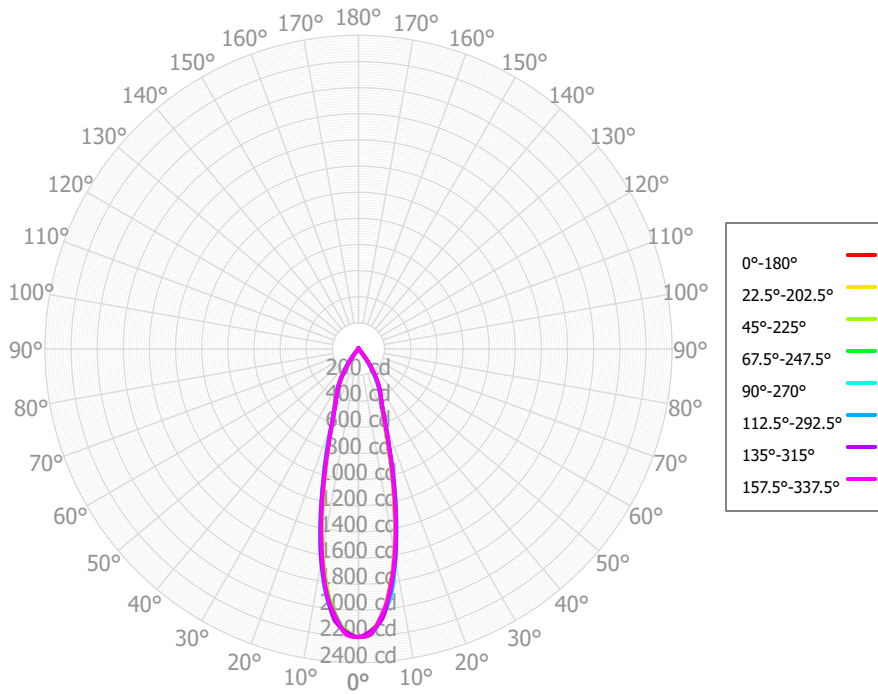
Full Beam Angle

0° - 180°	28°
90° - 270°	29°

IES File Header Contents

Keyword	Value
TEST	SP-01439
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/23/2022
ISSUEDATE	11/23/2022
LUMCAT	CK0407PC 10L 35K MD xx NL xx MW
LUMINAIRE	Nom. 4.5" Diam x 7"H Round Cylinder, Medium Beam
OTHER	No lens, Matte White finish
OTHER	28 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°	183.86	23.64%	90.00° - 100.00°	2.27	0.29%
10.00° - 20.00°	278.37	35.79%	100.00° - 110.00°	2.21	0.28%
20.00° - 30.00°	185.63	23.87%	100.00° - 120.00°	4.30	0.55%
30.00° - 40.00°	91.77	11.80%	120.00° - 130.00°	1.91	0.25%
40.00° - 50.00°	9.87	1.27%	130.00° - 140.00°	1.66	0.21%
50.00° - 60.00°	4.51	0.58%	140.00° - 150.00°	1.38	0.18%
60.00° - 70.00°	4.63	0.59%	150.00° - 160.00°	1.04	0.13%
70.00° - 80.00°	3.24	0.42%	160.00° - 170.00°	0.64	0.08%
80.00° - 90.00°	2.48	0.32%	170.00° - 180.00°	0.21	0.03%
0.00° - 90.00°	764.35	98.28%	0.00° - 180.00°	777.76	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°	2205.08	2205.08	2205.08	2205.08	2205.08	2205.08	2205.08	2205.08	2205.08	2205.08	2205.08	2205.08	2205.08	2205.08	2205.08	2205.08	2205.08
2.50°	2160.60	2191.86	2160.65	2184.17	2181.40	2172.19	2166.96	218715	2159.25	2182.97	2155.87	2178.01	2171.06	2185.81	2161.53	2183.40	2160.60
5.00°	2057.98	2042.86	2052.78	2053.64	2065.96	2076.88	2085.68	2051.76	2081.43	2037.04	2070.67	2041.54	2071.15	2055.13	2075.83	2044.08	2057.98
7.50°	1843.41	1869.69	1854.55	1892.45	1907.93	1899.32	1878.91	1888.42	1849.56	1856.03	1848.82	1874.81	1879.91	1887.07	1861.32	1871.01	1843.41
10.00°	1588.72	1581.46	1596.93	1613.04	1636.01	1649.68	1640.46	1606.15	1605.45	1576.89	1608.13	1603.45	1629.23	1614.67	1622.37	1594.94	1588.72
12.50°	1282.10	1288.10	1289.69	1324.06	1341.00	1352.93	1328.58	1315.17	1291.63	1287.81	1299.89	1320.71	1342.14	1330.91	1321.70	1309.56	1282.10
15.00°	996.94	983.92	1003.85	1017.62	1043.45	1034.09	1034.46	100715	997.52	984.09	1003.80	1018.78	1043.15	1040.36	1036.91	1009.51	996.94
17.50°	727.52	740.45	727.49	769.88	762.12	790.84	762.73	760.56	750.74	748.70	762.60	773.84	805.46	772.95	773.61	769.42	727.52
20.00°	568.78	567.45	57710	580.40	599.68	563.94	582.20	578.87	567.98	568.65	568.68	581.47	580.38	602.04	592.91	581.24	568.78
22.50°	452.06	461.06	450.55	467.07	463.39	475.78	464.90	469.20	46719	467.74	471.07	470.47	487.63	468.55	473.83	473.71	452.06
25.00°	397.04	39710	395.33	396.01	400.89	394.85	396.75	402.31	395.91	400.66	397.69	401.14	403.19	407.26	404.64	403.44	397.04
27.50°	350.76	340.54	339.80	332.71	336.66	335.94	345.98	342.58	345.44	342.27	351.58	345.91	353.98	347.97	354.79	347.79	350.76
30.00°	286.37	286.34	273.37	271.47	269.95	273.93	277.56	284.92	280.90	285.52	290.98	294.00	297.90	290.82	292.09	295.23	286.37
32.50°	221.16	217.00	206.45	202.45	200.88	203.07	206.80	211.71	211.10	214.74	221.44	225.58	228.41	225.85	227.28	223.60	221.16
35.00°	151.68	146.55	138.24	133.99	129.95	136.07	138.50	138.17	144.02	145.15	154.09	156.99	160.61	156.30	157.66	152.45	151.68
37.50°	89.79	87.47	80.49	77.69	75.36	74.69	75.82	80.47	78.04	83.88	87.44	93.42	94.63	94.14	91.77	89.12	89.79
40.00°	45.34	36.71	37.24	30.98	27.81	36.44	39.52	32.01	41.61	34.90	47.91	40.80	50.21	34.18	46.88	37.69	45.34
42.50°	17.48	20.10	14.97	16.76	14.07	16.72	13.24	17.81	10.71	17.72	12.99	21.64	18.56	17.78	13.99	19.72	17.48
45.00°	9.80	8.39	8.71	7.41	6.45	8.74	8.58	8.08	7.87	7.30	9.51	8.77	8.70	6.01	9.24	8.43	9.80
47.50°	6.29	6.28	6.66	6.14	5.60	5.88	5.99	6.56	5.90	5.97	6.59	5.85	5.39	5.38	6.08	6.74	6.29
50.00°	5.58	5.10	6.34	5.29	4.89	5.27	5.80	5.60	5.85	5.39	5.95	4.49	4.73	4.77	4.89	6.00	5.58
52.50°	5.11	4.90	5.56	4.83	4.91	5.09	5.74	5.21	5.63	5.36	5.40	4.47	4.31	4.25	4.50	6.02	5.11
55.00°	4.73	4.86	4.70	4.81	4.86	5.76	5.77	5.42	5.21	5.07	5.04	4.42	3.78	3.95	4.67	5.82	4.73
57.50°	4.99	4.91	4.77	5.02	4.67	6.31	5.84	5.95	5.03	4.67	4.68	4.37	3.49	4.03	4.80	5.51	4.99
60.00°	5.32	5.11	4.83	4.88	4.60	6.00	5.91	6.08	5.01	4.87	4.34	4.43	4.13	3.98	4.91	5.41	5.32
62.50°	5.26	5.34	4.82	4.65	4.70	5.57	5.67	6.12	5.28	5.15	4.42	4.50	4.51	3.78	4.84	5.34	5.26
65.00°	5.10	4.73	4.53	4.26	4.65	4.88	5.40	5.58	5.65	4.50	4.74	4.29	4.43	4.23	4.73	4.91	5.10
67.50°	4.55	4.04	3.57	3.87	4.48	4.29	5.14	4.98	4.95	3.88	4.50	3.98	4.51	5.03	4.43	4.55	4.55
70.00°	4.00	3.47	3.02	3.64	3.83	3.84	4.74	4.01	4.13	3.41	4.11	3.09	4.76	4.47	4.05	4.59	4.00
72.50°	3.47	3.00	3.01	3.29	3.01	3.17	3.78	3.26	3.30	2.94	3.76	2.41	4.33	3.56	3.32	4.37	3.47
75.00°	3.11	2.89	2.85	2.61	2.53	2.34	3.07	3.23	2.62	2.45	3.41	2.34	3.53	3.46	2.83	3.51	3.11
77.50°	2.94	2.84	2.58	2.21	2.12	2.10	2.85	3.03	2.57	2.31	3.04	2.32	3.10	3.35	2.86	3.07	2.94
80.00°	2.80	2.91	2.51	2.26	1.97	2.09	2.64	2.55	2.50	2.62	2.73	2.39	2.76	2.68	2.88	3.19	2.80
82.50°	2.69	2.61	2.51	2.24	1.84	1.98	2.44	2.29	2.39	2.58	2.61	2.36	2.37	2.11	2.89	2.78	2.69
85.00°	2.60	1.95	2.13	2.15	1.84	1.85	2.54	2.25	2.29	2.30	2.42	2.25	2.03	1.88	2.64	1.97	2.60
87.50°	2.53	1.85	1.70	2.12	1.84	2.03	2.81	2.36	2.20	2.14	2.09	2.17	2.19	1.68	2.23	1.86	2.53
90.00°	2.33	2.06	1.94	2.11	1.86	2.18	2.61	2.54	2.17	2.02	1.97	2.10	2.27	1.53	2.24	2.03	2.33
92.50°	2.12	2.28	2.11	1.99	1.96	2.20	2.28	2.59	2.17	2.19	2.05	1.95	2.08	1.53	2.40	2.23	2.12
95.00°	2.00	2.51	1.98	1.85	2.17	2.20	1.98	2.61	2.02	2.38	1.91	1.78	1.93	1.68	2.40	2.44	2.00
97.50°	1.94	2.32	1.96	1.85	2.13	2.14	1.71	2.45	1.83	2.08	1.66	1.81	1.86	1.98	2.36	2.23	1.94
100.00°	2.05	2.11	2.20	1.84	1.93	2.15	1.84	2.30	1.82	1.83	1.82	1.84	1.83	2.35	2.06	2.04	2.05

CK0407PC 10L 35K MD xx NL xx MW

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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	923	923	923	923	900	900	900	900	857	857	857	817	817	817	781	781	764
	1	884	865	847	831	864	847	831	817	813	801	789	782	772	764	753	746	730
	2	848	814	786	763	830	800	775	754	773	753	735	748	732	718	725	712	698
	3	813	770	736	709	797	758	728	703	736	711	690	716	696	678	698	681	667
	4	781	730	693	665	766	721	687	661	703	674	652	687	662	643	671	651	638
	5	750	695	656	628	737	687	651	625	672	642	618	659	632	612	646	623	612
	6	721	663	624	595	710	656	620	593	644	612	588	633	605	583	622	598	587
	7	694	634	594	567	684	628	591	565	618	585	561	608	579	558	599	574	564
	8	669	607	568	541	660	603	566	540	594	561	537	585	556	534	578	551	542
	9	645	583	544	518	637	579	542	517	571	538	515	564	534	513	557	530	522
	10	623	560	523	498	616	557	521	497	550	518	495	544	514	493	538	511	503

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	72.9 fc	2.8 ft
6.5 ft	52.2 fc	3.3 ft
7.5 ft	39.2 fc	3.8 ft
8.0 ft	34.5 fc	4.0 ft
10.0 ft	22.1 fc	5.0 ft
12.0 ft	15.3 fc	6.0 ft
14.0 ft	11.3 fc	7.0 ft
16.0 ft	8.6 fc	8.0 ft
20.0 ft	5.5 fc	10.0 ft
24.0 ft	3.8 fc	12.0 ft
28.0 ft	2.8 fc	14.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	209284	209284	209284
45.00°	1315	1170	866
55.00°	783	778	804
65.00°	1146	1018	1043
75.00°	1142	1044	929
85.00°	2835	2319	1998

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	0.7	1.6	1.1	2.0	2.3	0.7	1.6	1.1	2.0	2.3
	3H	3.4	4.2	3.8	4.6	5.0	3.3	4.1	3.7	4.5	4.9
	4H	4.4	5.2	4.9	5.6	6.0	4.2	4.9	4.6	5.3	5.7
	6H	5.6	6.3	6.1	6.7	7.1	5.1	5.8	5.5	6.2	6.6
	8H	6.3	6.9	6.8	7.4	7.8	5.6	6.2	6.1	6.7	7.1
	12H	7.1	7.7	7.6	8.1	8.6	6.2	6.8	6.7	7.2	7.7
4H	2H	1.5	2.3	2.0	2.7	3.1	1.7	2.4	2.1	2.8	3.3
	3H	4.3	4.9	4.8	5.4	5.8	4.2	4.8	4.7	5.3	5.7
	4H	5.5	6.0	6.0	6.5	7.0	5.1	5.7	5.6	6.1	6.6
	6H	6.9	7.4	7.4	7.9	8.4	6.2	6.7	6.7	7.1	7.7
	8H	7.7	8.1	8.2	8.6	9.1	6.8	7.2	7.3	7.7	8.2
	12H	8.6	9.0	9.1	9.5	10.0	7.6	7.9	8.1	8.5	9.0
8H	4H	5.9	6.3	6.4	6.8	7.3	5.6	6.0	6.1	6.5	7.0
	6H	7.6	8.0	8.2	8.5	9.0	6.9	7.2	7.4	7.8	8.3
	8H	8.6	8.9	9.2	9.5	10.0	7.7	8.0	8.3	8.6	9.1
	12H	9.7	9.9	10.2	10.5	11.1	8.7	9.0	9.3	9.5	10.1
12H	4H	6.0	6.3	6.5	6.9	7.4	5.7	6.1	6.2	6.6	7.1
	6H	7.8	8.1	8.4	8.6	9.2	7.1	7.4	7.7	7.9	8.5
	8H	8.9	9.2	9.5	9.7	10.3	8.1	8.3	8.6	8.9	9.5

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0