

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CK0407SQPC 30L 35K WD xx SO xx MW
Nom. 4.5" Diam x 7"H Square Cylinder, Wide Beam

Test Number

SP-01452_M-30L

Test Date

11/28/2022

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

Summary of Results

Power

Input Watts	17.8 W
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Lumen Output

Output Lumens	1264
Efficacy	71.03 lm/W

Luminous Dimensions

0° - 180° Size	0.2
90° - 270° Size	0.2
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.66
Two luminaires, plane 90°	0.65
Four luminaires	0.69

Full Beam Angle

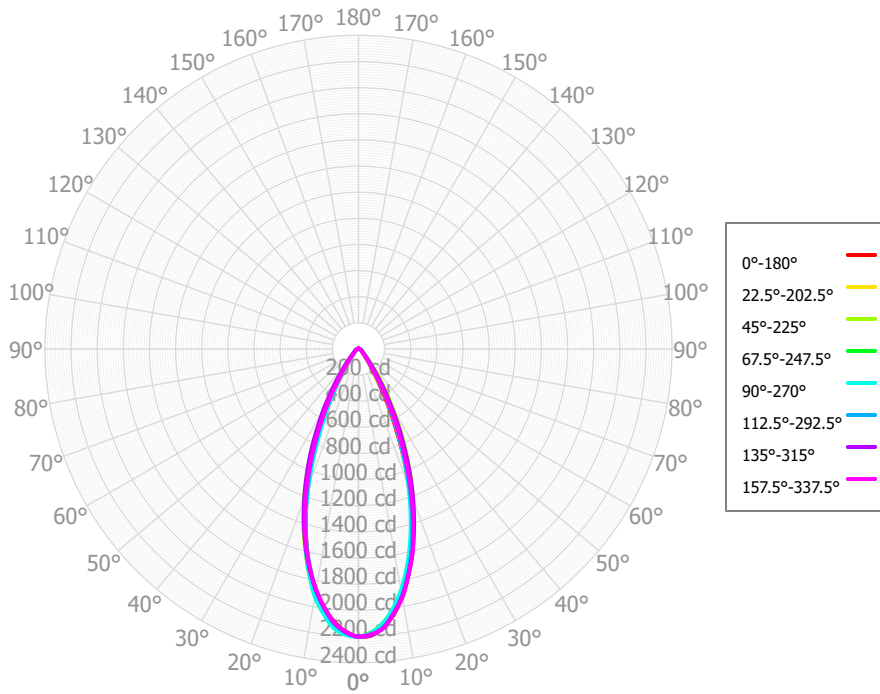
0° - 180°	41°
90° - 270°	40°

IES File Header Contents

Keyword	Value
TEST	SP-01452_M-30L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/28/2022
ISSUEDATE	12/1/2022
LUMCAT	CK0407SQPC 30L 35K WD xx SO xx MW
LUMINAIRE	Nom. 4.5" Diam x 7"H Square Cylinder, Wide Beam
OTHER	Solite lens, Matte White finish
OTHER	40 Degree Beam Angle
OTHER	Reference Project SL378
LAMP	N/A
LAMPCAT	N/A, Min. 80 CRI
OTHER	Total Luminaire Watts is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	80
_CCTMULT	27K x 0.95, 30K x 0.97, 40K x 1.03
_LAMPMULT	10L x 0.34, 15L x 0.49, 20L x 0.67

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Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	197.67	15.64%	90.00° - 100.00°	2.22	0.18%
10.00° - 20.00°	427.69	33.83%	100.00° - 110.00°	2.18	0.17%
20.00° - 30.00°	349.22	27.62%	100.00° - 120.00°	4.18	0.33%
30.00° - 40.00°	148.61	11.75%	120.00° - 130.00°	1.88	0.15%
40.00° - 50.00°	55.03	4.35%	130.00° - 140.00°	1.72	0.14%
50.00° - 60.00°	32.48	2.57%	140.00° - 150.00°	1.43	0.11%
60.00° - 70.00°	23.69	1.87%	150.00° - 160.00°	1.09	0.09%
70.00° - 80.00°	12.97	1.03%	160.00° - 170.00°	0.66	0.05%
80.00° - 90.00°	3.50	0.28%	170.00° - 180.00°	0.22	0.02%
0.00° - 90.00°	1250.87	98.94%	0.00° - 180.00°	1264.26	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°	2202.15	2202.15	2202.15	2202.15	2202.15	2202.15	2202.15	2202.15	2202.15	2202.15	2202.15	2202.15	2202.15	2202.15	2202.15	2202.15	2202.15
2.50°	2196.27	2175.15	2174.34	2173.95	2175.28	2171.05	2172.73	2165.80	2173.92	2171.02	2181.93	2181.09	2191.11	2188.55	2191.84	2186.28	2196.27
5.00°	2138.88	2132.96	2110.93	2111.19	2111.97	2113.88	2106.10	2104.85	2098.50	2116.43	2112.82	2120.06	214719	2142.41	2146.63	2149.02	2138.88
7.50°	2053.64	2033.05	2022.00	2012.01	2006.46	2000.95	2001.52	1995.17	2008.62	2010.63	2024.49	2029.33	2046.20	2041.42	2047.96	2045.84	2053.64
10.00°	1923.52	1920.66	1896.51	1884.79	1873.52	1879.85	1874.45	1869.96	1871.71	1886.34	1892.84	1897.80	1927.40	1917.34	1926.67	1933.63	1923.52
12.50°	1766.57	1758.37	1749.56	1725.22	1711.13	1712.49	1728.92	1718.52	1727.68	1737.46	1752.98	1747.66	1752.80	1755.52	1769.57	1769.30	1766.57
15.00°	1579.27	1590.62	1580.28	1547.78	1527.55	1541.77	1565.64	1552.39	1537.93	1566.46	1579.27	1563.89	1568.22	1572.69	1602.90	1601.19	1579.27
17.50°	1366.40	1383.61	1401.83	1356.32	1327.89	1345.62	1391.86	1368.41	1344.93	1374.69	1402.76	1370.25	1345.51	1365.74	1413.62	1391.98	1366.40
20.00°	1133.08	1175.38	1216.66	1159.69	1119.97	1149.06	1212.18	1175.88	1130.91	1172.62	121718	1163.64	1120.24	1152.83	1220.92	1181.73	1133.08
22.50°	906.36	957.98	1032.04	965.91	907.71	949.57	1030.14	975.97	917.91	963.52	1031.66	954.91	902.05	935.06	1023.14	964.60	906.36
25.00°	683.43	746.71	847.70	772.79	718.27	757.00	854.23	785.87	712.88	767.43	846.77	764.35	689.19	739.56	826.06	754.79	683.43
27.50°	504.22	569.39	680.83	612.28	537.09	591.61	679.84	601.69	519.83	577.43	667.76	576.42	524.18	557.07	651.42	571.29	504.22
30.00°	341.93	406.93	520.04	455.57	401.68	441.26	532.94	450.28	374.83	428.12	515.79	445.41	371.96	418.20	482.75	407.44	341.93
32.50°	242.87	291.75	397.16	345.33	276.30	327.84	389.79	312.73	250.79	291.13	378.29	319.91	275.62	296.50	358.00	290.18	242.87
35.00°	158.91	196.10	282.14	239.02	204.47	232.76	293.24	224.93	179.09	210.72	280.98	241.96	191.90	218.19	245.04	196.43	158.91
37.50°	119.05	140.92	211.17	179.95	138.15	169.11	200.64	150.43	122.28	140.55	199.15	171.11	143.12	150.94	177.49	140.57	119.05
40.00°	84.84	98.80	144.69	125.17	105.56	120.43	150.14	113.04	91.38	106.51	146.87	130.49	103.45	115.76	121.15	99.88	84.84
42.50°	68.96	75.86	111.60	95.27	74.75	89.70	103.17	80.95	68.77	75.29	106.25	95.71	80.58	84.82	91.91	76.84	68.96
45.00°	54.06	59.58	80.11	69.62	60.72	68.19	79.50	66.34	56.24	61.88	81.10	76.22	62.76	69.05	68.93	60.84	54.06
47.50°	47.64	50.18	64.51	57.87	47.93	54.51	59.00	52.83	47.68	49.33	62.90	60.49	51.44	54.14	56.57	50.64	47.64
50.00°	41.49	43.05	50.31	47.85	42.11	45.89	49.86	45.59	42.55	44.69	51.37	51.58	43.54	46.79	46.95	42.93	41.49
52.50°	37.01	37.57	43.50	41.60	36.98	40.37	42.39	38.92	37.65	40.20	43.24	43.90	38.84	39.87	40.59	36.66	37.01
55.00°	32.97	33.23	37.53	36.58	34.04	35.91	38.82	36.16	32.89	36.41	37.40	37.77	35.17	35.75	36.10	33.25	32.97
57.50°	30.51	29.48	34.14	33.39	31.39	31.90	35.10	33.47	29.81	32.70	33.28	33.65	32.15	31.86	33.23	30.99	30.51
60.00°	27.85	27.69	30.56	30.25	29.37	29.49	31.15	31.05	27.43	29.17	29.94	31.35	28.53	28.79	29.83	27.89	27.85
62.50°	24.77	26.56	26.58	27.16	26.75	27.50	28.30	28.83	25.11	26.13	26.85	28.26	24.62	25.63	26.12	24.57	24.77
65.00°	22.00	23.78	23.81	24.85	23.23	25.59	26.71	27.11	22.82	23.99	23.84	24.67	21.50	22.27	22.62	22.84	22.00
67.50°	19.75	20.64	22.77	23.13	20.18	23.70	24.78	24.85	20.57	21.79	21.71	21.04	18.62	19.16	19.20	21.30	19.75
70.00°	17.00	17.51	20.32	20.23	17.61	20.24	22.56	21.67	18.33	19.49	19.75	17.40	15.62	16.44	17.14	17.51	17.00
72.50°	13.72	14.39	16.47	16.69	15.26	16.72	19.46	18.14	15.07	16.35	16.51	14.49	12.61	13.53	15.45	13.68	13.72
75.00°	10.39	11.22	13.08	13.08	13.06	13.12	15.85	14.18	11.76	12.42	13.18	11.80	9.68	10.40	11.96	10.64	10.39
77.50°	7.01	8.11	10.04	9.43	10.07	9.64	12.60	10.74	8.59	9.26	9.57	8.90	6.78	7.69	8.22	7.70	7.01
80.00°	4.66	5.75	7.06	6.92	6.66	7.02	9.48	7.72	5.56	6.61	6.09	5.97	4.75	5.31	5.65	5.37	4.66
82.50°	2.87	3.60	4.10	4.67	4.21	4.66	6.28	5.35	3.62	4.43	3.76	4.13	2.89	3.65	3.21	3.40	2.87
85.00°	2.29	2.55	2.80	3.19	2.09	3.24	3.06	3.37	2.07	2.46	1.84	2.39	2.46	2.40	2.62	2.70	2.29
87.50°	2.17	1.76	2.04	1.79	1.88	2.25	2.60	2.62	2.03	1.88	1.83	1.90	2.15	1.92	2.07	2.21	2.17
90.00°	2.10	1.77	1.77	1.96	2.08	2.34	2.49	2.36	2.00	1.72	1.83	1.50	2.32	1.75	1.91	2.19	2.10
92.50°	2.05	1.75	1.61	2.15	2.24	2.32	2.29	2.35	1.98	1.65	1.86	1.88	2.32	1.93	1.81	2.15	2.05
95.00°	2.19	1.69	1.81	2.11	2.40	2.15	2.11	2.42	1.98	1.60	1.90	2.12	1.89	2.20	1.93	2.11	2.19
97.50°	2.34	1.75	2.04	2.05	2.13	2.00	2.14	2.61	2.03	1.96	1.95	1.77	1.65	2.18	2.00	2.09	2.34
100.00°	2.24	1.96	1.88	1.89	1.90	1.89	2.15	2.82	2.03	2.34	1.96	1.68	1.78	2.14	1.92	2.09	2.24

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Page 4 of 6

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	1502	1502	1502	1502	1465	1465	1465	1465	1397	1397	1397	1335	1335	1335	1278	1278	1251
	1	1431	1395	1363	1334	1398	1366	1338	1312	1313	1290	1269	1263	1246	1229	1218	1204	1179
	2	1361	1299	1249	1206	1332	1277	1230	1191	1234	1196	1163	1194	1163	1136	1157	1133	1109
	3	1296	1216	1154	1105	1269	1197	1141	1095	1162	1115	1076	1130	1090	1057	1100	1067	1039
	4	1235	1142	1074	1022	1211	1127	1064	1015	1098	1044	1002	1071	1026	989	1047	1008	976
	5	1178	1076	1005	953	1157	1064	998	948	1040	982	938	1018	968	929	997	954	920
	6	1125	1018	945	894	1106	1007	939	890	987	927	883	968	916	876	951	905	869
	7	1076	965	893	842	1059	956	888	839	939	878	834	923	869	829	908	860	824
	8	1030	917	845	796	1015	909	841	794	895	834	790	881	826	786	868	819	782
	9	988	873	803	756	974	867	800	754	854	793	751	842	787	748	831	781	745
	10	948	833	765	719	935	828	762	718	817	757	715	807	752	713	797	747	710

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	72.8 fc	4.1 ft
6.5 ft	52.1 fc	4.8 ft
7.5 ft	39.1 fc	5.6 ft
8.0 ft	34.4 fc	5.9 ft
10.0 ft	22.0 fc	7.4 ft
12.0 ft	15.3 fc	8.9 ft
14.0 ft	11.2 fc	10.4 ft
16.0 ft	8.6 fc	11.9 ft
20.0 ft	5.5 fc	14.8 ft
24.0 ft	3.8 fc	17.8 ft
28.0 ft	2.8 fc	20.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	592595	592595	592595
45.00°	20572	30486	23107
55.00°	15469	17608	15969
65.00°	14010	15160	14795
75.00°	10800	13602	13576
85.00°	7067	8635	6454

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	15.6	16.6	16.0	17.0	17.3	16.1	17.2	16.5	17.5	17.8
	3H	17.4	18.3	17.8	18.7	19.1	17.8	18.7	18.2	19.0	19.4
	4H	17.9	18.7	18.3	19.1	19.5	18.3	19.2	18.8	19.5	20.0
	6H	18.1	18.9	18.6	19.3	19.7	18.6	19.4	19.1	19.8	20.2
	8H	18.1	18.9	18.6	19.3	19.7	18.7	19.4	19.1	19.8	20.2
	12H	18.2	18.8	18.6	19.2	19.7	18.7	19.4	19.1	19.8	20.2
4H	2H	16.2	17.0	16.6	17.4	17.8	16.7	17.6	17.2	17.9	18.4
	3H	18.2	18.9	18.6	19.3	19.7	18.6	19.3	19.1	19.7	20.2
	4H	18.8	19.4	19.2	19.8	20.3	19.3	19.9	19.7	20.3	20.8
	6H	19.1	19.6	19.5	20.1	20.6	19.7	20.2	20.1	20.7	21.1
	8H	19.1	19.6	19.6	20.1	20.6	19.7	20.2	20.2	20.7	21.2
	12H	19.1	19.6	19.6	20.1	20.6	19.8	20.2	20.3	20.7	21.2
8H	4H	19.0	19.5	19.5	20.0	20.5	19.6	20.1	20.1	20.5	21.0
	6H	19.4	19.8	19.9	20.3	20.8	20.1	20.4	20.6	21.0	21.5
	8H	19.5	19.8	20.0	20.4	20.9	20.2	20.5	20.7	21.1	21.6
	12H	19.6	19.9	20.1	20.4	21.0	20.3	20.6	20.8	21.1	21.7
12H	4H	19.0	19.4	19.5	19.9	20.4	19.6	20.0	20.1	20.5	21.0
	6H	19.4	19.7	19.9	20.2	20.8	20.1	20.4	20.6	20.9	21.5
	8H	19.5	19.8	20.1	20.3	20.9	20.3	20.6	20.8	21.1	21.7

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0