Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire
CY1520SQFAGV 15L 35K XX XX MW
Nom 15" square x 18" H Luminous 'Cube' Closed Bottom

Test Number
SP-00907_M-15L

Test Date
4/30/2019

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

Summary of Results

Power

Input Watts	10 W

Lumen Output

Output Lumens	1029
Efficacy	102.9 lm/W

Luminous Dimensions

0° - 180° Size	1.25
90° - 270° Size	1.25
Height	1.5

Spacing Criterion

Two luminaires, plane 0°	1.95
Two luminaires, plane 90°	1.97
Four luminaires	2.22

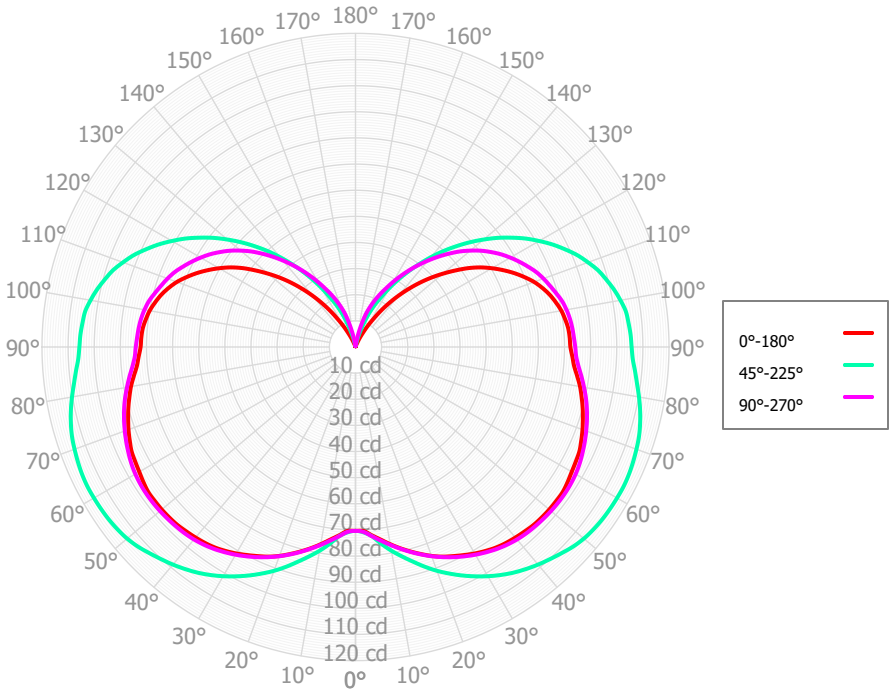
Full Beam Angle

0° - 180°	243°
90° - 270°	259°

IES File Header Contents

Keyword	Value
TEST	SP-00907_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	4/30/2019
ISSUEDATE	4/7/2020
LUMCAT	CY1520SQFAGV 15L 35K XX XX MW
LUMINAIRE	Nom 15" square x 18" H Luminous 'Cube' Closed Bottom
OTHER	Uplight - 38.9%
OTHER	Downlight - 61.1%
LAMPCAT	N/A
LAMP	N/A, CRI 80+
OTHER	CCT Output Multipliers: 27K x 0.97, 30K x 0.99, 40K x 1.03
OTHER	Total luminaire wattages is approximate
OTHER	This report prepared by Spectrum Lighting, scaled from 55L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	7.41	0.72%	90.00° - 100.00°	102.04	9.92%
10.00° - 20.00°	23.73	2.31%	100.00° - 110.00°	93.83	9.12%
20.00° - 30.00°	42.91	4.17%	100.00° - 120.00°	172.36	16.75%
30.00° - 40.00°	62.62	6.08%	120.00° - 130.00°	58.74	5.71%
40.00° - 50.00°	80.64	7.84%	130.00° - 140.00°	37.81	3.67%
50.00° - 60.00°	95.16	9.25%	140.00° - 150.00°	19.67	1.91%
60.00° - 70.00°	104.35	10.14%	150.00° - 160.00°	7.50	0.73%
70.00° - 80.00°	107.53	10.45%	160.00° - 170.00°	1.51	0.15%
80.00° - 90.00°	105.13	10.21%	170.00° - 180.00°	0.06	0.01%
0.00° - 90.00°	629.46	61.16%	0.00° - 180.00°	1,029.15	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	70.39	70.39	70.39
2.50°	70.51	71.02	70.87
5.00°	72.39	72.75	72.74
7.50°	74.39	76.02	74.77
10.00°	76.67	79.19	76.92
12.50°	78.89	82.09	79.06
15.00°	81.02	85.06	81.20
17.50°	83.09	88.18	83.24
20.00°	85.10	91.17	85.23
22.50°	86.86	93.87	87.05
25.00°	88.32	96.49	88.75
27.50°	89.79	98.96	90.33
30.00°	91.27	101.31	91.80
32.50°	92.56	103.46	93.14
35.00°	93.72	105.43	94.37
37.50°	94.56	107.14	95.37
40.00°	95.20	108.72	96.17
42.50°	95.79	110.15	96.76
45.00°	96.35	111.59	97.13
47.50°	96.63	113.04	97.44
50.00°	96.80	114.10	97.69
52.50°	96.83	114.76	97.82
55.00°	96.82	115.20	97.83
57.50°	96.25	115.45	97.66
60.00°	95.57	115.60	97.29
62.50°	95.05	115.68	96.71
65.00°	94.56	115.45	95.88
67.50°	93.54	115.00	94.98
70.00°	92.47	114.43	93.97
72.50°	91.25	113.79	92.89
75.00°	90.02	112.78	91.69
77.50°	88.66	111.58	90.35
80.00°	87.28	110.19	88.81
82.50°	85.60	108.71	87.27
85.00°	84.01	107.43	85.71
87.50°	83.07	106.23	84.57
90.00°	82.26	105.69	84.11
92.50°	82.07	105.40	83.68
95.00°	81.74	104.91	83.29
97.50°	80.95	104.36	82.78
100.00°	80.00	102.98	82.01
102.50°	78.60	101.37	81.00
105.00°	77.02	99.43	79.51
107.50°	75.05	97.41	78.02
110.00°	72.77	94.71	76.56
112.50°	69.96	91.88	74.91

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%	
RCR	0	1,130	1,130	1,130	1,130	1,057	1,057	1,057	1,057	921	921	921	797	797	797	683	683	683	629	
	1	979	911	851	796	908	848	794	745	730	687	648	621	588	558	521	496	472	450	
	2	871	767	681	609	804	712	636	571	610	549	497	515	468	426	428	391	358	352	
	3	782	657	561	484	721	610	523	453	521	452	394	439	384	338	363	320	283	286	
	4	708	572	471	395	652	531	440	370	453	380	322	382	323	275	315	268	230	239	
	5	646	503	403	329	594	467	376	308	399	325	269	337	277	230	278	230	191	205	
	6	592	446	348	278	545	415	326	261	356	282	228	300	240	195	249	200	162	178	
	7	545	399	305	239	502	372	286	224	320	248	196	271	212	168	225	177	140	158	
	8	504	360	269	207	465	336	253	195	289	220	170	246	188	146	205	157	122	141	
	9	468	327	240	182	433	305	225	171	264	197	150	225	169	128	188	142	108	127	
	10	437	298	216	161	404	279	203	151	242	177	133	207	152	114	173	128	96	115	

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	2.3 fc	-17.8 ft
6.5 ft	1.7 fc	-21.0 ft
7.5 ft	1.3 fc	-24.3 ft
8.0 ft	1.1 fc	-25.9 ft
10.0 ft	0.7 fc	-32.4 ft
12.0 ft	0.5 fc	-38.9 ft
14.0 ft	0.4 fc	-45.3 ft
16.0 ft	0.3 fc	-51.8 ft
20.0 ft	0.2 fc	-64.8 ft
24.0 ft	0.1 fc	-77.7 ft
28.0 ft	0.1 fc	-90.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	485	485	485
45.00°	427	403	430
55.00°	428	404	433
65.00°	431	406	437
75.00°	437	409	445
85.00°	451	416	460

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	5.9	7.1	6.8	8.0	9.0	6.0	7.1	6.8	8.0	9.1
	3H	8.6	9.7	9.4	10.5	11.7	8.7	9.7	9.5	10.6	11.7
	4H	9.9	10.9	10.7	11.8	12.9	10.0	11.0	10.8	11.9	13.0
	6H	11.1	12.1	12.0	13.0	14.1	11.2	12.2	12.1	13.0	14.2
	8H	11.7	12.6	12.6	13.5	14.7	11.8	12.7	12.7	13.6	14.8
	12H	12.3	13.2	13.2	14.1	15.2	12.4	13.3	13.3	14.2	15.3
4H	2H	6.9	7.9	7.8	8.8	9.9	6.9	8.0	7.8	8.8	10.0
	3H	9.8	10.7	10.6	11.6	12.7	9.8	10.7	10.7	11.6	12.8
	4H	11.2	12.0	12.1	12.9	14.1	11.2	12.1	12.1	13.0	14.1
	6H	12.6	13.3	13.5	14.2	15.4	12.6	13.4	13.5	14.3	15.5
	8H	13.2	13.9	14.1	14.9	16.0	13.3	14.0	14.2	14.9	16.1
	12H	13.9	14.5	14.8	15.5	16.7	14.0	14.6	14.9	15.6	16.8
8H	4H	11.8	12.5	12.7	13.4	14.6	11.9	12.6	12.8	13.5	14.7
	6H	13.4	14.0	14.3	15.0	16.2	13.5	14.1	14.4	15.1	16.2
	8H	14.2	14.8	15.2	15.7	16.9	14.3	14.9	15.2	15.8	17.0
	12H	15.1	15.6	16.0	16.5	17.7	15.1	15.6	16.1	16.6	17.8
12H	4H	11.9	12.6	12.8	13.5	14.7	12.0	12.6	12.9	13.6	14.7
	6H	13.7	14.2	14.6	15.1	16.4	13.7	14.3	14.6	15.2	16.4
	8H	14.6	15.1	15.5	16.0	17.2	14.6	15.1	15.6	16.1	17.3

Corrected UGR values based on total output lumens

SHR = 1.0