

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

994 Jefferson Street  
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### Spectrum Lighting Photometric Lab

**Luminaire**

PRDDH16LEDLX 65L 35K xx PR16 xx  
16" Diam. Prismatic Refractor

**Test Number**

SP-01509

**Test Date**

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

### Summary of Results

#### Power

Input Watts	52 W
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#### Lumen Output

Output Lumens	7386
Efficacy	142.04 lm/W

#### Luminous Dimensions

0° - 180° Size	-1.33
90° - 270° Size	-1.33
Height	0.92

#### Spacing Criterion

Two luminaires, plane 0°	0.87
Two luminaires, plane 90°	0.83
Four luminaires	0.88

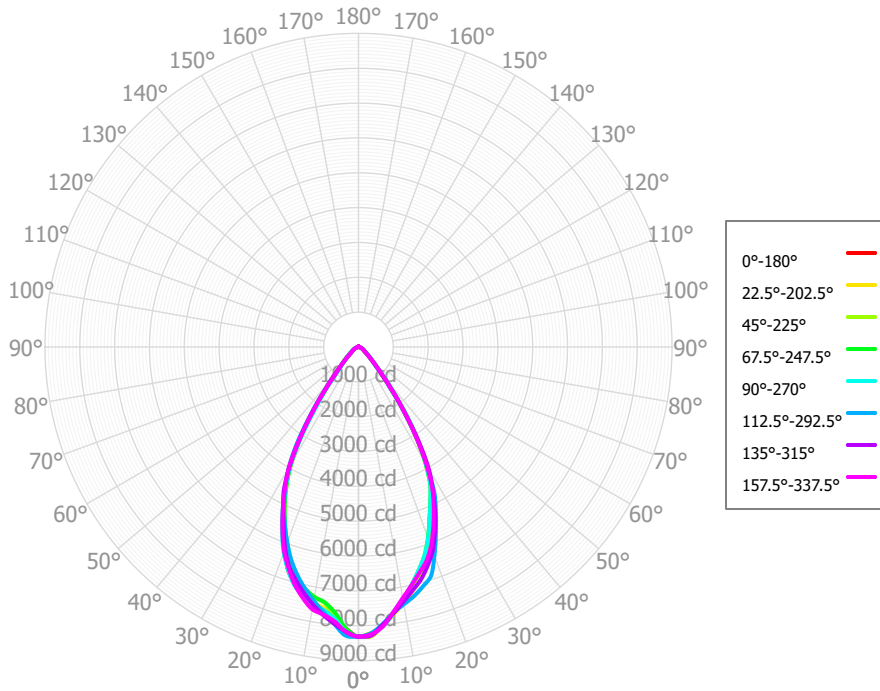
#### Full Beam Angle

0° - 180°	58°
90° - 270°	58°

### IES File Header Contents

Keyword	Value
TEST	SP-01509
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TEST DATE	03/01/2023
ISSUEDATE	03/15/2023
LUMCAT	PRDDH16LEDLX 65L 35K xx PR16 xx
LUMINAIRE	16" Diam. Prismatic Refractor
LAMP	N/A
LAMPCAT	N/A
OTHER	Total Luminaire Watts is approximate
OTHER	This report is created by Spectrum Lighting

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	751.07	10.17%	90.00° - 100.00°	11.87	0.16%
10.00° - 20.00°	1917.06	25.96%	100.00° - 110.00°	16.02	0.22%
20.00° - 30.00°	2303.17	31.18%	100.00° - 120.00°	26.18	0.35%
30.00° - 40.00°	1471.93	19.93%	120.00° - 130.00°	7.14	0.10%
40.00° - 50.00°	480.32	6.50%	130.00° - 140.00°	5.89	0.08%
50.00° - 60.00°	211.99	2.87%	140.00° - 150.00°	4.30	0.06%
60.00° - 70.00°	125.46	1.70%	150.00° - 160.00°	2.64	0.04%
70.00° - 80.00°	51.82	0.70%	160.00° - 170.00°	1.24	0.02%
80.00° - 90.00°	13.64	0.18%	170.00° - 180.00°	0.34	0.00%
0.00° - 90.00°	7326.46	99.19%	0.00° - 180.00°	7386.06	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°	8314.12	8314.12	8314.12	8314.12	8314.12	8314.12	8314.12	8314.12	8314.12	8314.12	8314.12	8314.12	8314.12	8314.12	8314.12	8314.12	8314.12
2.50°	8305.00	8216.31	8308.00	8230.33	8259.61	8298.71	8179.02	8192.66	8102.24	8174.94	8146.04	8095.26	8190.33	8226.36	8291.65	8255.83	8305.00
5.00°	8022.09	8020.38	8001.27	8029.02	8048.21	7982.85	7976.83	7904.03	7905.09	7814.59	7781.09	7659.98	7829.89	7982.15	7999.95	8053.17	8022.09
7.50°	7718.53	7738.33	7693.73	7703.65	7703.48	7677.67	7759.78	7748.25	7706.91	7573.70	7418.70	7397.34	7619.78	7692.47	7711.24	7669.42	7718.53
10.00°	7387.57	7459.42	7377.92	7362.86	7356.04	7396.66	7511.35	7646.15	7513.78	7445.88	7283.88	7288.90	7503.72	7500.94	7424.62	7317.04	7387.57
12.50°	7092.98	7182.56	7066.55	7011.20	7005.92	7101.28	7235.01	7382.41	7322.97	7258.79	7140.01	7100.84	7315.94	7332.17	7162.68	7010.53	7092.98
15.00°	6839.37	6876.08	6784.80	6653.25	6650.06	6778.87	6934.57	7065.60	7039.81	7023.37	6867.43	6852.42	7089.93	7123.20	6915.47	6722.31	6839.37
17.50°	6512.78	6553.05	6469.63	6291.56	6289.30	6412.61	6615.94	6666.85	6721.77	6626.99	6567.92	6467.91	6718.36	6907.06	6590.88	6457.10	6512.78
20.00°	6116.30	6090.16	5987.99	5830.76	5843.06	5976.09	6158.91	6246.30	6196.40	6119.41	6042.18	5996.20	6282.28	6375.51	6227.61	6087.47	6116.30
22.50°	5649.95	5562.13	5506.37	5319.84	5335.14	5526.32	5612.23	5706.84	5606.56	5588.07	5520.96	5510.32	5737.83	5803.29	5736.89	5606.42	5649.95
25.00°	5125.96	5050.75	5024.79	4876.05	4886.47	5058.60	5116.57	5143.13	5074.47	5042.90	5026.68	5016.69	5154.01	5259.92	5192.51	5109.75	5125.96
27.50°	4539.13	4545.75	4504.22	4460.36	4473.90	4553.43	4648.67	4571.71	4556.50	4488.82	4505.45	4467.06	4533.87	4718.85	4615.87	4598.68	4539.13
30.00°	3908.38	3837.40	3865.77	3838.37	3866.77	4004.63	3960.01	3999.12	3863.38	3930.32	3864.70	3891.93	3902.91	3914.27	4028.16	3916.85	3908.38
32.50°	3144.16	3064.79	3168.59	3145.93	3158.74	3304.61	3169.67	3183.78	3137.89	3196.47	3183.22	3109.89	3067.98	3100.78	3215.06	3101.62	3144.16
35.00°	2300.04	2291.25	2324.51	2397.14	2429.14	2454.90	2409.83	2343.90	2391.55	2390.89	2358.22	2250.47	2185.56	2300.19	2338.92	2343.13	2300.04
37.50°	1639.21	1517.47	1592.62	1632.69	1690.26	1740.95	1661.55	1700.87	1642.39	1732.80	1623.03	1605.25	1563.81	1516.68	1678.79	1622.15	1639.21
40.00°	1070.20	1090.36	1092.46	1158.42	1192.44	1141.17	1185.15	1069.24	1201.89	1124.73	1141.15	1025.90	987.41	1097.50	1065.43	1132.42	1070.20
42.50°	760.23	730.47	713.85	748.06	781.02	776.90	791.85	830.44	787.59	835.00	758.79	785.53	769.41	702.36	791.01	773.28	760.23
45.00°	559.58	555.53	548.32	561.52	573.33	583.03	593.43	599.94	621.98	631.21	609.99	627.04	596.23	564.68	570.55	558.53	559.58
47.50°	421.97	406.23	408.88	411.36	424.19	438.30	442.85	467.28	467.06	492.37	476.93	509.43	493.67	433.50	440.59	411.81	421.97
50.00°	306.07	317.11	307.94	322.19	333.20	323.56	348.59	339.56	369.48	367.37	374.52	399.46	396.76	348.92	320.73	315.31	306.07
52.50°	247.58	233.55	237.73	239.74	255.52	259.00	264.76	284.72	274.27	297.70	291.88	333.60	331.02	272.77	263.88	238.65	247.58
55.00°	204.87	204.99	206.46	210.79	219.60	220.51	228.78	232.91	240.64	236.66	241.48	273.57	266.57	239.89	211.03	201.11	204.87
57.50°	178.81	178.97	180.59	185.38	190.78	193.29	199.29	207.14	207.46	205.45	201.17	230.67	231.62	207.70	187.39	176.09	178.81
60.00°	156.38	156.83	160.53	162.69	167.90	170.93	173.82	181.28	179.61	177.34	174.97	189.25	196.78	178.25	164.44	154.84	156.38
62.50°	139.12	134.98	141.80	140.17	145.71	148.10	148.70	154.93	152.49	151.83	150.03	159.94	164.36	150.25	142.62	134.57	139.12
65.00°	122.69	120.65	124.29	124.03	127.90	125.12	125.77	129.69	130.88	126.48	126.59	131.13	132.62	126.78	120.97	116.61	122.69
67.50°	105.35	105.94	105.77	107.81	110.40	106.32	102.93	109.43	109.88	106.08	105.26	108.42	108.07	103.24	102.32	99.10	105.35
70.00°	87.92	86.43	86.44	90.40	91.01	88.72	86.01	89.14	92.26	85.86	86.07	85.71	83.48	79.52	83.50	80.82	87.92
72.50°	65.03	66.83	66.29	72.53	71.56	69.19	69.02	68.74	74.41	70.31	66.76	62.98	58.58	57.32	63.13	62.43	65.03
75.00°	41.79	46.57	45.59	50.09	52.72	49.22	50.31	49.53	55.60	54.62	47.34	41.13	35.86	38.37	43.52	44.55	41.79
77.50°	28.96	28.12	30.99	29.65	34.34	33.59	32.23	33.74	38.29	36.84	32.93	29.62	24.38	23.61	28.75	26.72	28.96
80.00°	16.53	19.76	19.86	22.02	24.39	18.70	21.78	21.28	26.00	20.45	22.27	18.92	14.54	16.32	16.03	18.63	16.53
82.50°	13.15	12.72	14.56	15.04	15.02	14.59	12.49	16.63	16.36	16.87	15.68	14.40	11.26	11.15	13.01	11.02	13.15
85.00°	9.90	11.32	12.04	11.09	11.54	11.76	11.83	12.87	13.79	13.50	11.67	10.71	8.88	9.20	10.31	9.83	9.90
87.50°	8.88	10.46	10.77	8.20	8.61	10.05	11.27	10.87	11.88	11.47	10.57	11.49	9.34	8.19	8.80	8.75	8.88
90.00°	7.99	11.40	10.02	9.23	9.45	8.43	11.30	10.10	11.41	10.00	11.02	12.26	9.82	8.39	7.70	9.40	7.99
92.50°	8.47	11.74	9.53	10.36	10.26	10.60	11.38	11.33	11.11	11.06	11.33	12.99	10.33	8.25	7.83	9.95	8.47
95.00°	9.02	10.46	9.14	11.79	11.00	12.88	11.72	12.22	11.12	12.01	11.59	13.49	10.69	7.75	7.82	9.27	9.02
97.50°	9.99	10.26	10.28	13.08	12.06	14.35	12.16	12.61	11.76	12.57	11.98	13.22	10.70	8.51	7.48	8.81	9.99
100.00°	11.28	12.53	11.82	14.05	14.35	15.90	12.94	13.13	13.38	13.10	12.43	13.70	11.76	10.46	8.21	10.24	11.28
102.50°	14.15	14.21	15.89	16.07	16.59	19.01	13.71	13.79	15.75	13.54	14.09	16.16	14.68	13.07	11.15	12.09	14.15
105.00°	16.55	14.80	20.47	20.22	18.66	21.36	14.46	13.43	19.14	13.99	16.13	16.81	16.29	16.23	13.42	16.31	16.55

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>ptc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	<b>0</b>	8779	8779	8779	8779	8568	8568	8568	8568	8174	8174	8174	7813	7813	7813	7482	7482	7326
	<b>1</b>	8336	8118	7922	7745	8146	7952	7776	7616	7640	7500	7371	7355	7243	7140	7091	7004	6859
	<b>2</b>	7892	7509	7192	6926	7720	7375	7087	6843	7125	6888	6683	6894	6700	6530	6680	6524	6385
	<b>3</b>	7468	6965	6576	6266	7312	6856	6499	6211	6652	6351	6103	6462	6211	6000	6287	6078	5899
	<b>4</b>	7068	6481	6050	5722	6927	6391	5992	5684	6222	5880	5609	6065	5773	5537	5919	5671	5466
	<b>5</b>	6694	6047	5595	5262	6567	5973	5551	5235	5832	5464	5182	5700	5381	5130	5578	5301	5079
	<b>6</b>	6346	5659	5198	4867	6230	5596	5162	4847	5477	5094	4808	5366	5029	4771	5262	4965	4733
	<b>7</b>	6022	5309	4847	4523	5917	5256	4819	4508	5155	4764	4479	5060	4711	4451	4971	4660	4423
	<b>8</b>	5722	4993	4535	4220	5627	4948	4512	4209	4861	4467	4187	4779	4425	4165	4702	4383	4144
	<b>9</b>	5443	4707	4256	3951	5357	4668	4237	3943	4593	4201	3926	4522	4165	3909	4455	4131	3892
	<b>10</b>	5185	4447	4006	3711	5106	4413	3990	3705	4348	3959	3691	4286	3930	3678	4227	3901	3665

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	274.8 fc	6.1 ft
6.5 ft	196.8 fc	7.2 ft
7.5 ft	147.8 fc	8.3 ft
8.0 ft	129.9 fc	8.9 ft
10.0 ft	83.1 fc	11.1 ft
12.0 ft	57.7 fc	13.3 ft
14.0 ft	42.4 fc	15.5 ft
16.0 ft	32.5 fc	17.7 ft
20.0 ft	20.8 fc	22.2 ft
24.0 ft	14.4 fc	26.6 ft
28.0 ft	10.6 fc	31.0 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	64416	64416	64416
<b>45.00°</b>	3260	3194	3340
<b>55.00°</b>	1226	1235	1314
<b>65.00°</b>	779	789	812
<b>75.00°</b>	292	318	368
<b>85.00°</b>	80	97	93

**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	-	-	-	-	-	-	-	-	-	-
	3H	-	-	-	-	-	-	-	-	-	-
	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-
	12H	-	-	-	-	-	-	-	-	-	-
4H	2H	-	-	-	-	-	-	-	-	-	-
	3H	-	-	-	-	-	-	-	-	-	-
	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-
	12H	-	-	-	-	-	-	-	-	-	-
8H	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-
	12H	-	-	-	-	-	-	-	-	-	-
12H	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0