

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

994 Jefferson Street  
Fall River, MA 02721  
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### Spectrum Lighting Photometric Lab

**Luminaire**

PRDDH16LEDLX 100L 35K xx PR16 xx  
16" Diam. Prismatic Refractor

**Test Number**

SP-01509\_1

**Test Date**

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

### Summary of Results

#### Power

Input Watts	80 W
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#### Lumen Output

Output Lumens	10510
Efficacy	131.37 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°	0.84
Four luminaires	0.88

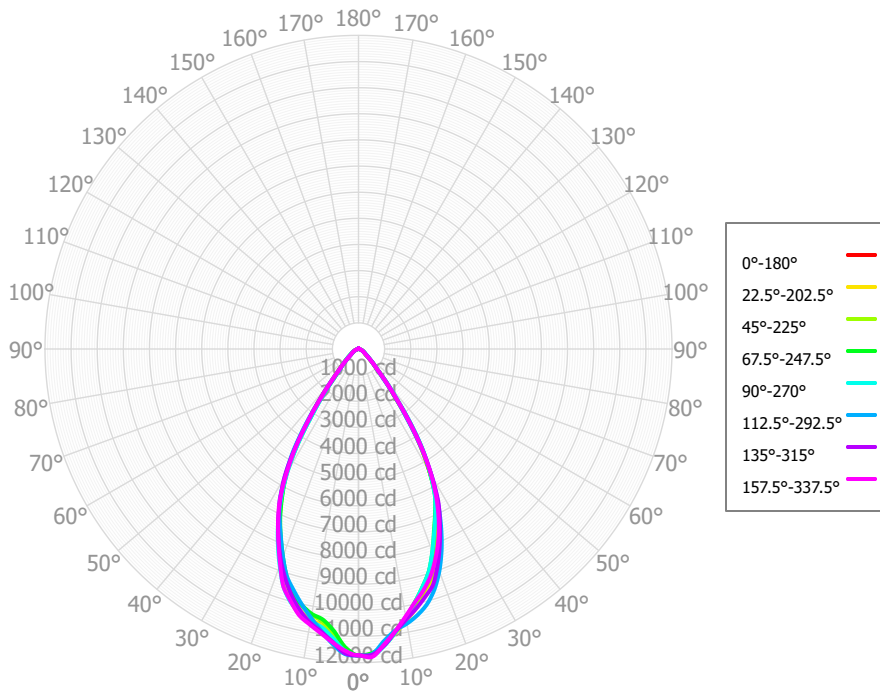
#### Full Beam Angle

0° - 180°	58°
90° - 270°	58°

### IES File Header Contents

Keyword	Value
TEST	SP-01509_I
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TEST DATE	03/01/2023
ISSUEDATE	03/15/2023
LUMCAT	PRDDH16LEDLX 100L 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
_CRI	80+
_CCTMULT	40K x 1.00, 30K x 0.978, 27K x 0.949
_LAMPMULT	65L x .703

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	1062.80	10.11%	90.00° - 100.00°	20.02	0.19%
10.00° - 20.00°	2715.30	25.84%	100.00° - 110.00°	26.98	0.26%
20.00° - 30.00°	3262.51	31.04%	100.00° - 120.00°	43.34	0.41%
30.00° - 40.00°	2092.18	19.91%	120.00° - 130.00°	11.55	0.11%
40.00° - 50.00°	685.20	6.52%	130.00° - 140.00°	9.51	0.09%
50.00° - 60.00°	306.86	2.92%	140.00° - 150.00°	6.85	0.07%
60.00° - 70.00°	184.43	1.75%	150.00° - 160.00°	3.86	0.04%
70.00° - 80.00°	79.99	0.76%	160.00° - 170.00°	1.78	0.02%
80.00° - 90.00°	23.01	0.22%	170.00° - 180.00°	0.47	0.00%
0.00° - 90.00°	10412.27	99.07%	0.00° - 180.00°	10509.64	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°	11727.39	11727.39	11727.39	11727.39	11727.39	11727.39	11727.39	11727.39	11727.39	11727.39	11727.39	11727.39	11727.39	11727.39	11727.39	11727.39	11727.39
2.50°	11730.91	11675.36	11686.36	11657.69	11768.48	11691.30	11665.21	11565.79	11587.21	11571.13	11533.77	11436.17	11575.61	11694.60	11718.13	11799.56	11727.39
5.00°	11352.33	11355.86	11336.58	11366.50	11400.31	11338.08	11261.27	11282.10	11186.46	11081.56	10973.70	10829.27	11114.49	11218.66	11385.08	11342.47	11352.33
7.50°	10894.01	10950.72	10894.75	10909.37	10928.27	10885.94	10918.47	10980.43	10843.11	10694.71	10526.95	10447.50	10743.08	10856.80	10895.90	10877.59	10894.01
10.00°	10434.16	10556.10	10456.23	10430.02	10437.17	10448.25	10641.32	10714.04	10658.27	10518.21	10328.21	10296.09	10572.94	10673.91	10513.24	10390.78	10434.16
12.50°	9974.13	10163.57	10018.30	9939.60	9942.80	10014.80	10267.39	10451.56	10404.02	10275.67	10075.12	10035.27	10349.77	10432.88	10181.57	9941.45	9974.13
15.00°	9636.02	9748.00	9611.02	9442.75	9441.95	9569.40	9810.16	10004.36	10002.94	9926.89	9727.59	9683.43	10033.72	10118.13	9831.77	9574.12	9636.02
17.50°	9304.61	9329.46	9207.14	8943.42	8940.41	9121.46	9265.75	9546.34	9474.28	9403.02	9233.13	9136.86	9546.76	9657.34	9475.33	9139.03	9304.61
20.00°	8659.35	8624.97	8520.28	8270.60	8258.73	8458.17	8661.42	8773.29	8734.06	8651.71	8536.17	8461.06	8819.03	9048.24	8839.98	8588.10	8659.35
22.50°	8008.67	7902.51	7820.34	7547.33	7570.67	7765.42	7985.87	8003.59	7982.02	7897.53	7834.06	7776.77	8063.61	8312.71	8127.41	7973.27	8008.67
25.00°	7266.83	7194.19	7134.62	6935.03	6963.62	7146.44	7271.00	7284.57	7214.17	7140.37	7126.26	7087.97	7277.03	7474.30	7378.55	7270.45	7266.83
27.50°	6494.57	6471.28	6431.87	6345.47	6340.16	6532.60	6485.91	6533.13	6399.76	6350.50	6353.29	6316.69	6399.24	6560.03	6622.69	6473.09	6494.57
30.00°	5476.20	5455.18	5472.33	5461.47	5490.08	5607.91	5670.64	5528.74	5535.51	5532.97	5521.91	5511.39	5437.93	5595.80	5596.37	5571.60	5476.20
32.50°	4439.19	4424.89	4487.99	4537.92	4606.61	4670.09	4563.71	4506.31	4516.53	4517.38	4487.80	4388.60	4328.59	4436.56	4537.86	4512.09	4439.19
35.00°	3305.52	3266.05	3310.60	3429.40	3484.54	3528.42	3361.99	3395.00	3364.86	3368.13	3308.44	3167.31	3110.84	3174.46	3407.78	3311.04	3305.52
37.50°	2270.76	2190.62	2221.73	2308.39	2430.98	2427.56	2422.84	2377.09	2418.11	2433.38	2356.79	2261.00	2191.25	2241.95	2273.55	2345.33	2270.76
40.00°	1600.74	1571.42	1567.95	1652.65	1701.79	1706.83	1546.76	1682.59	1613.81	1612.99	1534.47	1426.26	1447.60	1444.15	1646.24	1548.13	1600.74
42.50°	1046.57	1034.42	1011.17	1021.22	1084.32	1059.68	1153.11	1114.08	1156.32	1178.62	1111.11	1115.44	1071.65	1060.16	1041.92	1081.63	1046.57
45.00°	807.96	807.08	789.85	803.14	841.74	834.10	839.32	876.52	892.57	906.64	867.49	882.86	865.48	803.22	827.15	802.78	807.96
47.50°	598.68	601.81	590.86	593.81	626.23	625.22	648.43	665.71	686.65	704.61	684.90	724.19	712.56	639.48	620.64	602.84	598.68
50.00°	450.68	458.94	450.47	464.30	479.93	483.01	469.22	509.00	505.89	524.77	523.64	571.80	578.42	496.65	482.74	438.41	450.68
52.50°	341.21	347.47	343.35	348.13	366.53	365.21	397.00	393.46	410.40	424.97	424.99	479.06	481.58	415.70	359.60	352.26	341.21
55.00°	295.87	303.75	303.44	307.18	318.00	318.58	328.90	344.37	343.01	343.85	342.36	388.65	394.61	343.84	314.55	292.93	295.87
57.50°	258.16	264.17	266.78	268.55	276.48	276.75	291.96	299.95	297.47	299.23	295.16	329.67	336.56	300.05	271.76	257.27	258.16
60.00°	230.56	231.69	235.32	238.86	246.01	245.55	255.05	261.51	257.27	260.27	254.13	272.29	283.76	258.46	237.30	227.66	230.56
62.50°	203.37	202.20	206.58	210.57	216.70	215.45	218.47	224.65	224.08	222.52	218.80	232.23	240.43	218.37	204.73	200.52	203.37
65.00°	176.61	176.76	181.35	186.34	188.83	187.27	183.34	189.44	192.04	184.88	184.08	193.19	198.17	178.60	177.28	173.81	176.61
67.50°	151.28	151.55	155.75	161.56	163.34	160.08	157.80	158.91	165.13	158.41	157.34	160.41	161.11	148.25	149.42	147.31	151.28
70.00°	127.17	126.58	129.76	135.59	140.23	134.27	131.88	132.29	138.70	132.32	130.94	127.61	124.32	117.65	120.72	120.85	127.17
72.50°	98.49	99.33	101.80	108.54	112.55	107.21	104.20	104.61	109.45	108.50	103.95	94.66	90.78	84.44	92.55	91.80	98.49
75.00°	66.62	70.06	72.19	79.59	81.13	78.76	78.02	76.24	80.21	84.71	77.28	65.18	58.32	53.71	65.30	62.80	66.62
77.50°	43.66	48.77	50.27	54.79	56.58	54.94	56.72	53.86	56.53	61.20	55.13	46.35	42.59	37.99	43.77	44.99	43.66
80.00°	25.62	33.11	33.48	35.72	36.50	35.33	38.58	34.69	34.08	39.63	34.61	31.02	28.02	24.35	29.88	27.97	25.62
82.50°	19.58	23.65	24.58	23.51	25.75	24.60	28.23	25.13	27.33	30.48	26.51	23.96	22.33	19.37	20.54	22.22	19.58
85.00°	18.69	17.72	19.90	18.87	19.87	20.41	20.49	19.55	21.20	22.30	19.49	19.25	17.40	15.12	16.05	16.90	18.69
87.50°	16.99	16.17	17.22	16.46	17.88	17.97	17.71	18.07	19.32	18.31	17.70	18.82	16.27	13.11	13.95	14.78	16.99
90.00°	15.03	16.59	15.38	16.05	17.46	16.56	17.50	17.91	18.09	15.80	16.72	18.88	15.62	12.37	13.91	13.22	15.03
92.50°	15.04	16.78	16.57	16.85	17.81	17.39	21.20	19.69	19.90	17.92	18.45	19.67	16.68	14.63	13.34	14.34	15.04
95.00°	15.54	16.90	18.70	18.53	18.40	19.25	22.05	21.91	21.52	19.34	19.96	20.56	17.53	15.99	12.39	15.24	15.54
97.50°	17.37	17.90	20.03	20.12	19.49	23.88	19.44	23.08	22.53	19.11	20.89	21.55	17.85	15.72	13.40	15.33	17.37
100.00°	19.41	19.13	21.17	21.64	20.69	29.50	20.07	24.09	24.43	20.00	22.84	24.20	20.15	17.34	15.51	16.85	19.41
102.50°	24.56	21.54	26.64	26.61	28.61	32.32	23.86	24.75	28.54	22.98	26.84	28.42	26.50	21.73	18.43	22.02	24.56
105.00°	30.01	24.14	32.77	33.13	37.50	34.41	24.60	25.39	30.06	25.03	28.51	28.61	29.97	24.47	21.71	26.56	30.01

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>pfc</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%	10%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
	<b>0</b>	12488	12488	12488	12488	12187	12187	12187	12187	11623	11623	11623	11108	11108	11108	10635	10635	10412
	<b>1</b>	11854	11542	11261	11009	11583	11304	11052	10824	10859	10657	10473	10450	10290	10143	10073	9949	9741
	<b>2</b>	11219	10671	10219	9838	10973	10480	10069	9719	10122	9783	9490	9791	9514	9272	9485	9261	9070
	<b>3</b>	10614	9896	9340	8898	10391	9740	9229	8818	9447	9017	8664	9176	8816	8515	8924	8626	8451
	<b>4</b>	10044	9205	8591	8121	9842	9077	8507	8067	8834	8346	7959	8609	8193	7855	8400	8046	7888
	<b>5</b>	9512	8588	7943	7466	9328	8481	7878	7428	8279	7754	7351	8090	7634	7277	7914	7520	7377
	<b>6</b>	9015	8035	7376	6904	8850	7945	7326	6876	7774	7228	6820	7614	7133	6765	7465	7042	6914
	<b>7</b>	8554	7537	6877	6415	8404	7460	6837	6394	7315	6758	6352	7179	6682	6311	7051	6609	6493
	<b>8</b>	8127	7087	6434	5984	7990	7022	6401	5968	6897	6337	5937	6780	6275	5905	6670	6215	6110
	<b>9</b>	7731	6681	6037	5603	7606	6624	6010	5590	6516	5957	5566	6414	5906	5541	6318	5856	5762
	<b>10</b>	7364	6311	5681	5262	7251	6262	5659	5252	6168	5615	5233	6079	5572	5213	5995	5530	5445

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	387.7 fc	6.1 ft
6.5 ft	277.6 fc	7.2 ft
7.5 ft	208.5 fc	8.3 ft
8.0 ft	183.2 fc	8.9 ft
10.0 ft	117.3 fc	11.1 ft
12.0 ft	81.4 fc	13.3 ft
14.0 ft	59.8 fc	15.5 ft
16.0 ft	45.8 fc	17.7 ft
20.0 ft	29.3 fc	22.1 ft
24.0 ft	20.4 fc	26.6 ft
28.0 ft	15.0 fc	31.0 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	90861	90861	90861
<b>45.00°</b>	4707	4602	4904
<b>55.00°</b>	1770	1815	1902
<b>65.00°</b>	1121	1151	1198
<b>75.00°</b>	465	504	567
<b>85.00°</b>	150	160	160

**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