

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Fall River, MA 02721
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Spectrum Lighting Photometric Lab

Luminaire

PRDDH16LEDLX 140L 35K xx PR16 xx
16" Diam. Prismatic Refractor

Test Number

SP-01509_3

Test Date

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

Summary of Results

Power

Input Watts	107 W
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Lumen Output

Output Lumens	13815
Efficacy	129.12 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.86
Two luminaires, plane 90°	0.83
Four luminaires	0.87

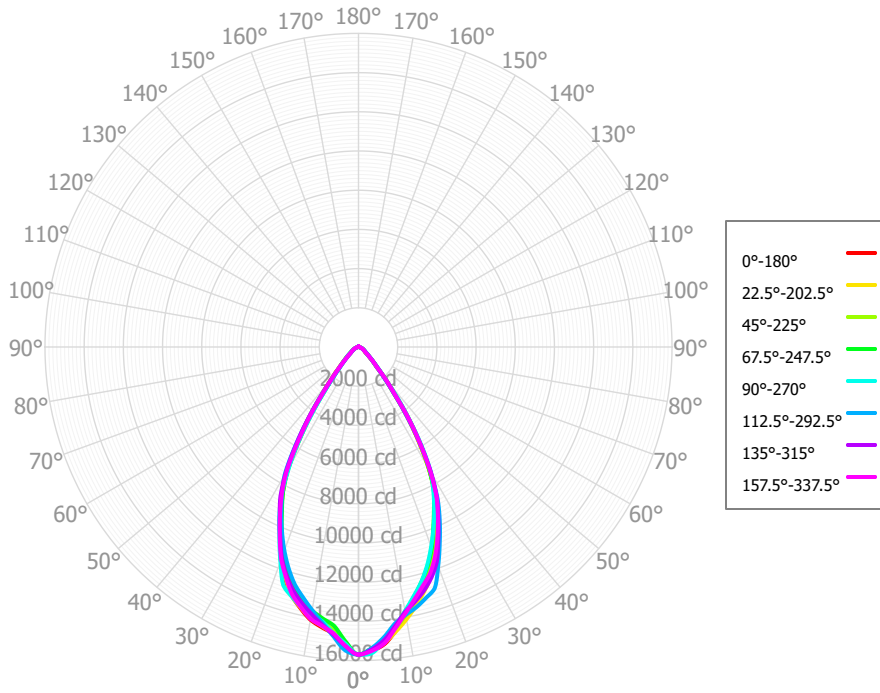
Full Beam Angle

0° - 180°	58°
90° - 270°	57°

IES File Header Contents

Keyword	Value
TEST	SP-01509_3
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TEST DATE	03/01/2023
ISSUEDATE	03/15/2023
LUMCAT	PRDDH16LEDLX 140L 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	130L x .956

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	1404.93	10.17%	90.00° - 100.00°	27.59	0.20%
10.00° - 20.00°	3575.21	25.88%	100.00° - 110.00°	36.28	0.26%
20.00° - 30.00°	4288.94	31.04%	100.00° - 120.00°	57.58	0.42%
30.00° - 40.00°	2731.21	19.77%	120.00° - 130.00°	14.54	0.11%
40.00° - 50.00°	900.84	6.52%	130.00° - 140.00°	12.29	0.09%
50.00° - 60.00°	402.38	2.91%	140.00° - 150.00°	8.78	0.06%
60.00° - 70.00°	244.09	1.77%	150.00° - 160.00°	4.93	0.04%
70.00° - 80.00°	107.97	0.78%	160.00° - 170.00°	2.07	0.02%
80.00° - 90.00°	31.60	0.23%	170.00° - 180.00°	0.50	0.00%
0.00° - 90.00°	13687.18	99.07%	0.00° - 180.00°	13815.45	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°	15698.18	15698.18	15698.18	15698.18	15698.18	15698.18	15698.18	15698.18	15698.18	15698.18	15698.18	15698.18	15698.18	15698.18	15698.18	15698.18	15698.18
2.50°	15523.63	15465.34	15421.58	15402.18	15641.86	15498.38	15276.07	15273.41	15250.19	15290.31	15192.14	15048.03	15165.76	15385.72	15450.88	15525.72	15598.18
5.00°	15221.52	15152.12	15058.86	15025.47	15022.40	14810.07	14735.60	14668.89	14691.35	14699.27	14526.12	14287.58	14662.33	14872.42	15017.09	15180.67	15252.12
7.50°	14601.04	14643.49	14477.67	14364.77	14375.33	14184.79	14286.02	14352.23	14423.25	14358.06	14143.70	13977.58	14127.51	14238.58	14353.82	14469.23	14601.04
10.00°	13980.18	14107.43	13887.44	13709.66	13681.96	13631.11	13834.46	14090.23	14131.52	14066.23	13777.30	13656.18	13830.43	13885.45	13721.74	13800.77	13980.18
12.50°	13357.95	13533.27	13277.06	13071.29	13021.33	13086.69	13375.82	13596.39	13662.16	13620.20	13337.92	13213.75	13565.73	13610.59	13315.95	13193.36	13357.95
15.00°	12752.68	12928.54	12661.84	12415.42	12399.25	12549.71	12862.02	13081.03	13142.93	13159.26	12865.41	12728.04	13180.38	13270.05	12884.15	12637.16	12752.68
17.50°	12186.24	12293.78	12039.22	11724.84	11667.08	11851.08	12219.74	12318.10	12428.05	12360.17	12129.80	12033.63	12756.29	12919.49	12352.61	12132.40	12186.24
20.00°	11472.45	11439.47	11245.88	10925.43	10841.66	11059.93	11442.50	11531.27	11596.48	11532.00	11337.79	11254.82	11648.40	11892.22	11676.94	11405.84	11472.45
22.50°	10524.56	10432.63	10265.76	9974.24	9997.12	10204.15	10447.47	10504.14	10472.61	10404.56	10311.52	10232.64	10556.77	10833.40	10646.70	10521.70	10524.56
25.00°	9542.01	9452.04	9331.40	9111.28	9141.22	9323.45	9509.24	9481.94	9407.43	9307.02	9309.01	9249.95	9573.84	9816.19	9633.90	9589.19	9542.01
27.50°	8520.67	8484.26	8432.50	8335.38	8273.42	8429.88	8635.49	8482.76	8441.77	8354.60	8367.63	8344.02	8498.19	8750.17	8650.18	8632.52	8520.67
30.00°	7233.35	7172.11	7192.25	7229.49	7400.81	7533.24	7433.91	7340.11	7247.30	7276.79	7239.39	7157.09	7085.77	7330.49	7404.60	7318.74	7233.35
32.50°	5735.11	5747.86	5767.37	5890.00	6010.82	6028.72	5968.39	5785.67	5780.64	5828.74	5786.68	5590.64	5631.66	5873.33	5852.19	5887.53	5735.11
35.00°	4330.93	4314.60	4349.38	4511.09	4487.44	4448.79	4523.90	4328.67	4407.19	4435.33	4381.67	4156.23	4080.98	4272.64	4386.25	4453.05	4330.93
37.50°	2979.69	2879.63	2933.92	3112.87	3242.72	3171.81	3091.44	3057.36	3113.47	3148.63	3035.53	2848.10	2794.71	2880.26	2993.21	3017.93	2979.69
40.00°	2104.80	2080.31	2075.21	2192.42	2035.74	1951.33	2186.56	2092.90	2215.95	2164.34	2090.39	2005.33	1932.96	1999.91	2075.23	2162.34	2104.80
42.50°	1410.02	1335.61	1341.30	1425.41	1533.19	1481.95	1484.92	1535.46	1556.52	1590.21	1496.11	1481.53	1358.30	1343.64	1442.50	1358.18	1410.02
45.00°	1050.89	1049.11	1024.10	1066.52	1069.16	1046.14	1118.47	1125.82	1167.54	1173.31	1124.84	1159.12	1108.02	1060.98	1072.28	1062.14	1050.89
47.50°	769.80	773.35	751.87	785.89	827.85	811.07	831.87	857.03	888.84	909.57	890.80	933.46	904.69	826.36	809.00	776.65	769.80
50.00°	601.11	601.38	593.14	619.99	604.80	605.90	658.28	667.06	696.47	705.09	705.20	760.83	738.97	648.01	630.20	600.03	601.11
52.50°	445.81	450.26	443.79	464.51	503.13	501.44	498.68	530.16	526.71	541.42	540.24	604.85	611.58	527.60	473.02	444.24	445.81
55.00°	393.63	394.49	394.87	411.90	413.60	415.06	443.68	449.50	452.76	450.15	452.12	510.14	506.01	456.02	409.57	387.26	393.63
57.50°	344.62	342.71	347.63	360.34	368.04	368.71	391.28	394.90	392.10	393.26	385.24	426.50	429.41	394.55	359.10	335.73	344.62
60.00°	304.90	302.21	309.68	319.10	324.54	324.08	338.43	344.56	343.22	341.13	334.48	359.14	363.92	339.16	318.84	300.06	304.90
62.50°	266.42	264.11	272.34	279.64	285.80	282.10	287.58	295.52	295.34	290.51	286.14	293.34	308.65	290.77	278.99	265.25	266.42
65.00°	235.21	230.51	236.97	248.39	250.56	245.82	248.72	255.02	258.02	251.49	245.87	248.66	255.79	245.23	239.44	232.13	235.21
67.50°	203.30	197.51	202.36	215.98	220.92	215.73	211.24	216.01	220.95	214.58	206.04	204.12	208.23	202.51	200.40	197.49	203.30
70.00°	169.07	165.30	169.34	180.33	189.67	181.54	178.50	177.40	185.56	180.41	167.69	160.82	161.32	160.50	164.63	160.83	169.07
72.50°	133.69	130.17	134.34	144.03	156.59	144.18	145.06	138.94	150.13	146.41	130.07	119.31	116.33	120.69	128.79	124.09	133.69
75.00°	95.82	92.29	96.45	106.52	119.37	107.10	110.11	106.25	114.60	109.89	97.62	85.84	72.96	81.18	92.66	87.29	95.82
77.50°	64.37	63.41	66.83	73.97	78.83	70.18	78.57	74.80	81.86	74.84	67.46	56.90	54.65	57.68	61.11	61.00	64.37
80.00°	42.51	40.59	45.75	48.03	53.62	49.35	52.20	54.31	55.64	53.61	45.98	40.33	37.58	35.57	40.08	41.84	42.51
82.50°	29.37	30.12	32.49	32.31	37.10	34.40	35.43	36.44	37.10	35.02	30.19	28.30	27.80	28.65	25.12	31.02	29.37
85.00°	25.56	25.37	25.03	26.26	29.27	28.93	29.10	30.01	30.99	28.31	28.30	24.56	20.13	22.28	19.82	24.11	25.56
87.50°	23.14	23.47	22.77	23.35	24.74	25.57	26.18	25.37	28.66	23.65	26.74	23.18	19.61	19.58	16.91	20.84	23.14
90.00°	21.77	22.43	23.19	22.55	25.86	24.27	25.91	25.50	30.63	24.63	25.72	24.84	19.40	17.75	16.73	18.71	21.77
92.50°	21.47	23.44	23.93	22.92	28.31	23.19	26.97	26.98	30.93	25.82	25.60	26.88	19.87	19.04	17.47	19.96	21.47
95.00°	21.73	24.79	24.79	23.83	26.80	24.29	28.76	30.92	29.90	27.41	26.52	29.27	20.25	20.05	18.94	21.83	21.73
97.50°	23.34	24.99	26.05	24.98	24.81	26.22	31.14	33.07	30.30	29.13	28.05	32.13	20.47	20.41	20.13	23.51	23.34
100.00°	25.43	25.20	27.38	26.20	33.71	38.49	33.74	32.97	31.54	31.04	30.10	35.31	24.60	22.86	21.16	25.24	25.43
102.50°	31.80	29.61	36.81	36.58	42.49	48.05	34.27	33.11	36.35	33.78	32.62	36.36	32.96	28.62	25.12	31.33	31.80
105.00°	39.11	33.29	47.00	48.53	44.86	42.72	34.34	33.48	42.54	37.29	35.43	36.45	36.88	31.86	30.21	36.90	39.11

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%	10%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
	0	16416	16416	16416	16416	16020	16020	16020	16020	15279	15279	15279	14602	14602	14602	13980	13980	13980
	1	15583	15171	14802	14470	15226	14859	14528	14228	14273	14008	13765	13736	13526	13332	13240	13077	12924
	2	14748	14027	13432	12932	14424	13776	13235	12776	13304	12859	12474	12869	12506	12187	12467	12174	11912
	3	13952	13008	12278	11696	13659	12804	12133	11592	12418	11854	11389	12062	11589	11193	11731	11339	11004
	4	13204	12101	11294	10677	12938	11933	11184	10605	11614	10972	10464	11318	10771	10327	11043	10578	10194
	5	12505	11291	10443	9817	12264	11151	10359	9766	10884	10195	9666	10637	10038	9568	10405	9887	9472
	6	11853	10565	9700	9079	11635	10447	9633	9042	10222	9504	8969	10012	9380	8897	9816	9261	8826
	7	11248	9911	9045	8437	11051	9811	8991	8409	9620	8888	8354	9441	8788	8301	9273	8692	8248
	8	10687	9321	8462	7872	10507	9235	8419	7851	9071	8335	7809	8917	8253	7768	8772	8174	7727
	9	10167	8787	7942	7371	10003	8713	7906	7355	8571	7837	7322	8437	7769	7290	8311	7704	7258
	10	9685	8302	7475	6924	9536	8238	7445	6911	8114	7387	6885	7997	7331	6860	7887	7276	6834

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	518.9 fc	6.0 ft
6.5 ft	371.6 fc	7.1 ft
7.5 ft	279.1 fc	8.2 ft
8.0 ft	245.3 fc	8.8 ft
10.0 ft	157.0 fc	11.0 ft
12.0 ft	109.0 fc	13.2 ft
14.0 ft	80.1 fc	15.4 ft
16.0 ft	61.3 fc	17.6 ft
20.0 ft	39.2 fc	22.0 ft
24.0 ft	27.3 fc	26.4 ft
28.0 ft	20.0 fc	30.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	121626	121626	121626
45.00°	6122	5966	6229
55.00°	2355	2362	2474
65.00°	1493	1504	1590
75.00°	669	673	834
85.00°	205	201	235

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