

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

PRDDH16LEDLX 100L 35K xx PR16 TF3 xx
16" Diam. Prismatic Refractor with TF3 Lens

Test Number

SP-01476_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	9491
Efficacy	118.64 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

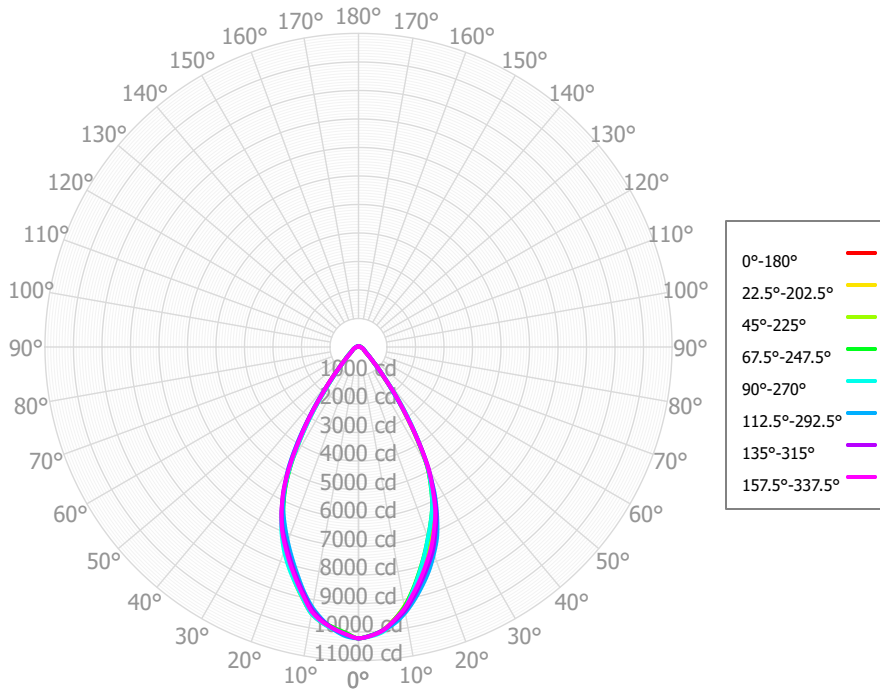
Full Beam Angle

0° - 180°	58°
90° - 270°	58°

IES File Header Contents

Keyword	Value
TEST	SP-01476_1
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 TF3 xx
LUMINAIRE	16" Diam. Prismatic Refractor with TF3 Lens
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 .700

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	944.05	9.95%	90.00° - 100.00°	53.53	0.56%
10.00° - 20.00°	2350.69	24.77%	100.00° - 110.00°	55.83	0.59%
20.00° - 30.00°	2846.35	29.99%	100.00° - 120.00°	77.05	0.81%
30.00° - 40.00°	1834.40	19.33%	120.00° - 130.00°	9.92	0.10%
40.00° - 50.00°	631.61	6.65%	130.00° - 140.00°	7.76	0.08%
50.00° - 60.00°	292.21	3.08%	140.00° - 150.00°	5.47	0.06%
60.00° - 70.00°	205.65	2.17%	150.00° - 160.00°	3.28	0.03%
70.00° - 80.00°	147.09	1.55%	160.00° - 170.00°	1.56	0.02%
80.00° - 90.00°	80.13	0.84%	170.00° - 180.00°	0.38	0.00%
0.00° - 90.00°	9332.19	98.33%	0.00° - 180.00°	9491.14	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°	10220.92	10220.92	10220.92	10220.92	10220.92	10220.92	10220.92	10220.92	10220.92	10220.92	10220.92	10220.92	10220.92	10220.92	10220.92	10220.92	10220.92
2.50°	10136.52	10126.71	10135.55	10126.21	10158.20	10157.88	10093.91	10085.73	10077.58	10070.76	10050.86	10044.44	10111.00	10129.16	10134.53	10139.29	10136.52
5.00°	9975.72	9985.05	9961.56	9982.77	10023.39	9953.22	9927.15	9924.11	9922.82	9911.07	9899.08	9886.28	9955.64	9978.63	9963.19	9979.06	9975.72
7.50°	9649.09	9645.91	9641.99	9650.44	9683.76	9653.51	9684.99	9726.84	9757.80	9734.57	9724.99	9707.54	9764.61	9776.16	9693.50	9659.10	9649.09
10.00°	9289.46	9288.09	9241.08	9268.73	9328.78	9281.62	9351.23	9437.09	9494.25	9490.55	9417.90	9413.76	9509.03	9466.56	9396.27	9309.72	9289.46
12.50°	8849.68	8818.61	8766.15	8745.18	8778.63	8805.68	8866.20	8948.42	9028.70	9042.08	8988.19	8923.31	9039.22	9082.52	8971.38	8865.63	8849.68
15.00°	8399.55	8345.33	8258.46	8195.48	8224.89	8266.90	8375.67	8461.55	8548.98	8568.47	8491.32	8419.19	8574.40	8664.93	8521.51	8410.55	8399.55
17.50°	7941.24	7882.85	7771.97	7658.15	7671.02	7754.35	7877.89	7977.75	8046.44	8036.17	7944.87	7896.23	8122.16	8228.87	8070.57	7940.59	7941.24
20.00°	7482.38	7415.17	7292.73	7122.25	7122.77	7254.41	7400.35	7489.89	7530.48	7497.12	7419.29	7373.45	7628.67	7731.60	7619.49	7469.41	7482.38
22.50°	6927.28	6880.48	6773.57	6622.81	6629.86	6754.90	6944.09	6996.54	6997.05	6945.78	6906.14	6850.89	7054.50	7208.12	7048.87	6926.71	6927.28
25.00°	6362.02	6320.10	6244.42	6124.36	6119.71	6255.55	6377.82	6397.70	6365.89	6322.26	6277.57	6242.24	6399.81	6521.25	6471.03	6372.91	6362.02
27.50°	5607.80	5583.37	5546.35	5485.58	5506.91	5611.22	5717.46	5684.23	5632.88	5594.90	5595.24	5557.54	5619.18	5780.45	5701.48	5638.75	5607.80
30.00°	4829.24	4799.79	4819.64	4828.89	4833.89	4927.24	4884.60	4826.55	4779.92	4773.24	4742.07	4708.74	4730.22	4833.77	4919.01	4875.26	4829.24
32.50°	3829.56	3800.97	3852.25	3880.88	3918.27	3997.26	3932.20	3841.44	3825.34	3841.65	3826.94	3742.37	3706.18	3836.75	3897.06	3873.54	3829.56
35.00°	2866.06	2852.44	2860.10	2951.10	3029.13	3019.35	3026.54	2940.93	2938.83	2958.29	2926.62	2846.99	2782.11	2895.21	2900.14	2908.36	2866.06
37.50°	2100.84	2068.61	2106.61	2164.30	2219.27	2233.33	2146.54	2101.04	2098.39	2120.01	2030.25	1991.93	1959.34	1962.80	2124.82	2128.45	2100.84
40.00°	1416.67	1402.91	1368.01	1445.05	1525.48	1471.37	1536.44	1502.56	1508.86	1508.60	1474.58	1433.05	1379.58	1430.67	1413.79	1435.39	1416.67
42.50°	1045.04	1027.86	1025.89	1060.06	1095.43	1085.18	1041.56	1041.26	1053.55	1069.40	981.90	1005.51	997.19	936.34	1049.01	1050.58	1045.04
45.00°	728.12	725.90	697.39	724.91	757.22	721.39	776.91	773.08	787.01	794.38	771.31	781.98	759.53	742.76	729.05	725.98	728.12
47.50°	566.05	565.41	554.12	566.71	584.23	579.07	587.98	590.55	600.16	618.47	593.58	628.49	615.61	561.81	576.01	562.97	566.05
50.00°	429.08	434.98	419.70	430.64	447.16	440.42	469.18	471.44	477.84	490.85	486.77	520.73	511.12	469.19	442.09	426.02	429.08
52.50°	347.25	351.11	350.04	353.95	361.28	365.91	367.09	374.11	376.48	386.47	384.01	424.68	427.09	379.87	361.65	343.64	347.25
55.00°	284.95	290.42	287.90	292.61	300.14	296.36	317.58	322.65	320.83	324.27	328.17	360.14	366.41	330.80	297.42	280.77	284.95
57.50°	256.23	258.37	261.14	262.96	267.20	270.44	276.69	282.69	275.91	277.66	274.14	301.12	315.25	284.83	267.92	249.97	256.23
60.00°	232.57	233.58	237.02	239.16	241.92	245.64	252.98	258.25	251.29	248.86	249.60	267.86	277.85	260.08	241.38	225.09	232.57
62.50°	215.83	215.97	221.72	224.82	223.74	226.88	230.88	236.51	229.83	224.93	225.64	237.27	244.67	235.80	219.90	207.92	215.83
65.00°	199.76	199.20	205.97	209.13	208.14	208.48	211.95	215.11	209.16	205.07	206.36	211.34	216.46	213.70	201.03	191.67	199.76
67.50°	184.43	183.12	189.11	191.68	194.49	191.47	193.16	193.75	188.56	186.00	187.16	185.69	189.33	192.39	185.69	176.37	184.43
70.00°	168.32	168.03	172.64	174.74	179.75	175.37	176.23	175.42	170.32	169.49	168.32	167.12	170.89	173.69	170.32	161.80	168.32
72.50°	151.50	153.59	156.94	158.34	164.37	161.80	159.38	157.28	152.29	153.30	150.55	148.71	153.72	155.57	154.90	147.86	151.50
75.00°	135.28	138.10	141.14	142.59	149.60	147.23	143.39	142.54	139.93	137.84	136.66	132.76	136.89	138.88	139.38	133.06	135.28
77.50°	119.49	122.08	125.15	127.39	135.13	130.53	127.27	127.70	127.14	122.42	121.37	116.38	120.10	121.01	123.76	117.67	119.49
80.00°	101.52	104.76	108.16	110.02	117.30	112.64	110.30	111.40	109.33	105.64	102.28	96.88	99.32	100.88	104.14	100.37	101.52
82.50°	82.32	86.91	89.89	91.17	98.25	92.74	93.42	95.17	91.64	88.96	84.41	78.48	78.67	81.87	81.70	82.02	82.32
85.00°	66.02	70.95	74.38	73.71	80.54	76.16	76.96	79.45	74.78	74.09	69.11	65.37	64.22	64.60	65.72	66.14	66.02
87.50°	51.04	55.56	61.66	57.00	63.18	64.05	62.71	64.86	59.72	59.84	55.75	54.10	50.77	52.16	53.39	51.33	51.04
90.00°	45.32	49.50	53.39	50.56	54.76	56.00	55.64	55.72	52.64	50.76	45.58	49.11	48.05	45.68	47.33	45.35	45.32
92.50°	42.79	45.45	48.75	48.48	48.05	52.39	50.73	49.30	47.20	43.25	40.94	45.64	45.90	43.89	44.09	42.27	42.79
95.00°	44.44	46.51	48.87	49.30	49.21	52.38	51.13	52.21	46.95	44.14	43.54	46.11	47.25	46.72	45.82	44.27	44.44
97.50°	47.17	48.28	52.12	51.06	51.30	55.53	53.40	55.00	48.16	46.05	47.97	48.33	49.32	51.22	49.24	47.47	47.17
100.00°	49.54	52.23	56.37	56.67	59.23	61.66	59.31	57.52	52.89	51.72	54.32	54.02	54.31	57.06	51.07	50.89	49.54
102.50°	51.85	56.33	61.13	63.20	67.48	69.89	62.08	56.18	55.18	53.24	57.65	57.36	57.88	60.36	52.50	54.34	51.85
105.00°	49.87	43.66	60.23	65.30	61.33	68.88	60.06	47.15	52.82	43.22	58.36	56.95	57.13	62.05	54.82	48.68	49.87

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%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	11261	11261	11261	11261	10981	10981	10981	10981	10457	10457	10457	9979	9979	9979	9539	9539	9539	9332
	1	10642	10340	10069	9826	10387	10117	9874	9654	9700	9505	9326	9317	9162	9019	8964	8843	8730	8651
	2	10047	9527	9097	8735	9815	9347	8955	8624	9009	8687	8409	8697	8434	8203	8409	8197	8007	8021
	3	9488	8813	8290	7874	9277	8666	8185	7799	8388	7985	7652	8132	7794	7511	7894	7614	7374	7454
	4	8968	8184	7610	7171	8777	8062	7530	7119	7832	7376	7016	7619	7230	6916	7420	7091	6818	6946
	5	8484	7626	7026	6583	8311	7524	6964	6545	7331	6844	6471	7152	6729	6398	6984	6620	6327	6489
	6	8035	7127	6518	6080	7879	7041	6469	6052	6879	6374	5997	6726	6282	5943	6584	6194	5890	6077
	7	7620	6680	6071	5644	7478	6607	6032	5623	6468	5955	5581	6338	5881	5540	6216	5810	5500	5705
	8	7235	6278	5676	5262	7107	6215	5644	5246	6096	5581	5213	5984	5520	5181	5878	5461	5150	5367
	9	6880	5915	5323	4924	6763	5860	5297	4911	5757	5245	4885	5659	5194	4860	5567	5145	4835	5060
	10	6551	5586	5008	4623	6444	5538	4985	4612	5448	4941	4592	5362	4899	4571	5281	4857	4551	4780

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	337.9 fc	6.1 ft
6.5 ft	241.9 fc	7.2 ft
7.5 ft	181.7 fc	8.3 ft
8.0 ft	159.7 fc	8.9 ft
10.0 ft	102.2 fc	11.1 ft
12.0 ft	71.0 fc	13.3 ft
14.0 ft	52.1 fc	15.6 ft
16.0 ft	39.9 fc	17.8 ft
20.0 ft	25.6 fc	22.2 ft
24.0 ft	17.7 fc	26.7 ft
28.0 ft	13.0 fc	31.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	79189	79189	79189
45.00°	4242	4063	4412
55.00°	1705	1722	1796
65.00°	1268	1307	1321
75.00°	945	986	1045
85.00°	530	597	647

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