

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

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

#### Luminaire

PRDDH16LEDLX 140L 35K xx PR16 TF3 xx  
16" Diam. Prismatic Refractor with TF3 Lens

#### Test Number

SP-01476\_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	12492
Efficacy	116.75 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	0.87

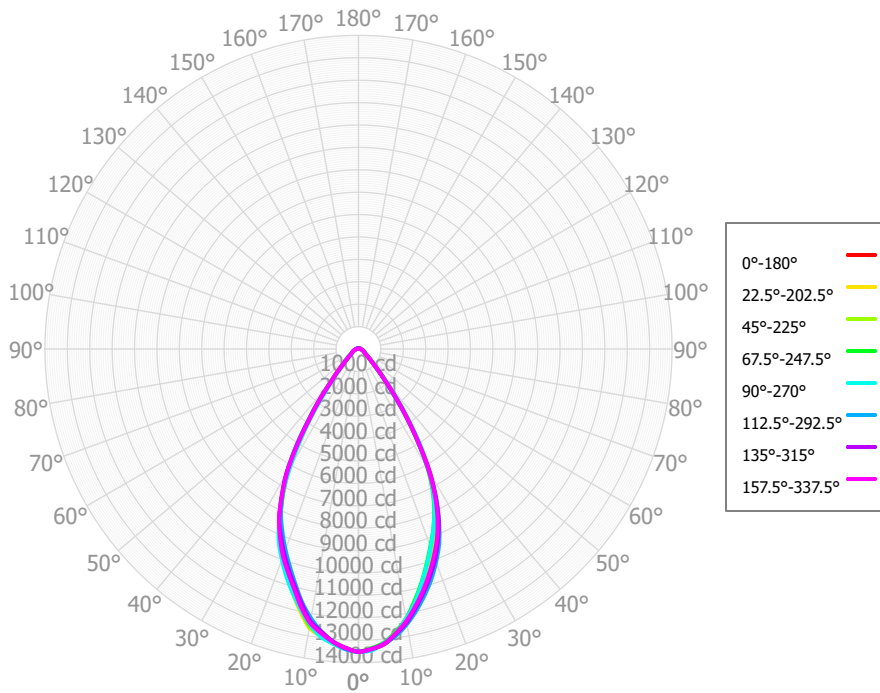
### Full Beam Angle

0° - 180°	58°
90° - 270°	58°

## IES File Header Contents

Keyword	Value
TEST	SP-01476_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 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	130L x .950

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	1249.44	10.00%	90.00° - 100.00°	72.38	0.58%
10.00° - 20.00°	3103.25	24.84%	100.00° - 110.00°	73.94	0.59%
20.00° - 30.00°	3737.60	29.92%	100.00° - 120.00°	102.18	0.82%
30.00° - 40.00°	2404.30	19.25%	120.00° - 130.00°	12.99	0.10%
40.00° - 50.00°	827.61	6.62%	130.00° - 140.00°	10.43	0.08%
50.00° - 60.00°	384.64	3.08%	140.00° - 150.00°	7.36	0.06%
60.00° - 70.00°	271.63	2.17%	150.00° - 160.00°	3.86	0.03%
70.00° - 80.00°	195.39	1.56%	160.00° - 170.00°	1.82	0.01%
80.00° - 90.00°	107.04	0.86%	170.00° - 180.00°	0.43	0.00%
0.00° - 90.00°	12280.91	98.31%	0.00° - 180.00°	12492.37	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°	13518.50	13518.50	13518.50	13518.50	13518.50	13518.50	13518.50	13518.50	13518.50	13518.50	13518.50	13518.50	13518.50	13518.50	13518.50	13518.50	13518.50
2.50°	13400.99	13390.80	13378.94	13373.98	13474.04	13415.81	13349.89	13373.68	13367.72	13391.49	13384.68	13390.06	13410.56	13419.11	13406.32	13410.59	13410.59
5.00°	13232.62	13199.75	13179.89	13154.26	13181.55	13114.15	13106.85	13132.89	13171.04	13201.62	13190.18	13183.99	13206.29	13208.09	13227.97	13203.94	13203.94
7.50°	12801.35	12792.26	12744.85	12737.39	12797.00	12718.93	12728.66	12803.01	12898.35	12926.14	12900.71	12867.94	12955.61	12908.40	12830.05	12799.25	12803.94
10.00°	12356.31	12332.34	12267.25	12223.00	12240.17	12210.99	12340.06	12430.03	12618.78	12630.25	12598.16	12509.26	12477.44	12474.00	12406.33	12326.77	12326.77
12.50°	11765.38	11725.82	11614.73	11530.60	11611.73	11599.60	11666.40	11816.73	11927.90	12003.44	11916.12	11855.97	11913.51	11957.40	11831.72	11752.85	11752.85
15.00°	11171.52	11111.76	10959.32	10822.17	10861.74	10875.95	10979.18	11098.66	11238.33	11310.51	11192.51	11100.80	11304.77	11391.18	11250.50	11148.39	11148.39
17.50°	10553.68	10479.20	10293.77	10087.17	10129.45	10187.84	10342.77	10463.85	10579.83	10608.96	10488.34	10418.34	10681.28	10797.47	10637.53	10502.91	10502.91
20.00°	9918.65	9820.49	9622.42	9381.82	9424.51	9534.99	9707.55	9861.02	9914.96	9905.95	9785.69	9757.71	10001.06	10125.71	10002.05	9838.89	9918.65
22.50°	9173.20	9105.03	8933.47	8720.50	8726.37	8871.61	9047.93	9147.85	9155.22	9121.37	9040.44	9013.58	9304.70	9415.43	9273.41	9152.14	9173.20
25.00°	8386.01	8304.84	8187.11	7994.90	8037.66	8198.81	8381.10	8396.87	8375.15	8325.88	8293.10	8247.92	8369.56	8510.16	8484.29	8345.27	8386.01
27.50°	7381.00	7338.72	7285.71	7183.54	7241.99	7373.92	7439.15	7423.33	7376.93	7353.16	7326.00	7284.41	7375.01	7519.54	7481.45	7405.69	7381.00
30.00°	6321.22	6252.67	6274.09	6199.65	6313.07	6424.83	6478.09	6383.65	6346.42	6362.50	6352.89	6276.76	6120.10	6284.98	6397.22	6295.60	6321.22
32.50°	5017.24	4957.17	4996.07	5005.66	5233.43	5272.73	5165.21	5125.38	5057.96	5122.83	5081.28	5011.52	4810.64	4954.60	5064.40	5015.79	5017.24
35.00°	3772.42	3754.34	3786.90	3859.03	3982.25	3971.54	3874.10	3811.44	3811.95	3864.54	3816.54	3698.53	3620.38	3733.66	3806.11	3826.73	3772.42
37.50°	2756.13	2696.36	2724.96	2764.32	2910.55	2897.17	2855.64	2822.93	2832.64	2893.36	2827.51	2731.71	2450.66	2550.36	2750.33	2720.26	2756.13
40.00°	1860.89	1857.39	1848.97	1926.39	2022.86	1972.39	1891.73	1906.14	1933.01	1935.24	1865.71	1816.76	1801.93	1823.12	1856.64	1905.02	1860.89
42.50°	1367.04	1330.27	1326.39	1342.18	1399.40	1382.59	1418.78	1417.51	1452.46	1478.63	1417.72	1389.76	1227.42	1234.85	1356.92	1328.43	1367.04
45.00°	946.62	940.29	919.91	947.45	1020.03	993.78	980.20	1007.13	1022.86	1032.18	989.62	1021.78	987.18	944.05	952.37	952.31	946.62
47.50°	737.61	725.81	713.53	723.84	755.25	749.59	779.97	794.67	816.46	835.76	814.95	844.41	785.02	731.14	752.37	726.16	737.61
50.00°	558.00	560.30	547.89	563.43	587.23	582.91	595.14	611.39	630.26	642.00	646.29	684.85	663.44	599.04	583.37	563.87	558.00
52.50°	453.91	451.23	445.12	454.41	471.82	476.12	498.58	512.52	519.23	531.40	532.41	578.08	548.51	485.28	473.56	444.49	453.91
55.00°	369.30	375.57	370.89	384.05	396.37	397.89	412.51	423.67	423.67	424.35	426.64	474.66	475.53	423.13	389.49	370.11	369.30
57.50°	328.81	335.09	336.21	341.98	348.89	354.14	376.00	383.30	378.71	380.28	377.69	416.22	404.76	370.73	349.98	323.26	328.81
60.00°	295.80	303.50	307.42	310.45	320.49	325.20	341.16	347.14	338.14	337.44	331.77	359.33	364.84	336.63	316.05	293.62	295.80
62.50°	277.78	280.44	286.08	285.95	296.70	299.08	312.98	314.84	310.06	308.67	303.44	321.15	325.80	305.35	290.76	273.38	277.78
65.00°	258.76	258.55	265.30	262.93	275.77	274.02	284.85	282.76	282.89	280.28	275.34	283.29	290.48	277.64	266.24	253.45	258.76
67.50°	237.92	237.67	245.17	240.81	255.41	250.38	256.93	258.91	257.97	255.18	248.34	252.74	255.42	250.38	242.80	233.68	237.92
70.00°	217.75	217.94	224.86	222.81	235.38	227.20	230.96	235.33	233.69	230.46	222.46	222.68	230.67	227.86	221.37	214.95	217.75
72.50°	198.70	199.10	204.35	207.03	215.51	209.55	210.95	214.96	210.86	208.33	201.11	203.74	205.94	205.78	202.50	196.68	198.70
75.00°	179.65	182.06	184.86	188.07	195.73	193.52	190.38	194.56	189.68	186.63	179.29	184.32	181.66	185.19	183.14	175.97	179.65
77.50°	160.62	166.32	166.32	167.58	174.43	171.02	168.33	170.76	171.82	167.25	155.83	157.79	157.04	164.69	163.21	154.31	160.62
80.00°	138.65	144.97	145.02	144.02	152.46	146.86	146.92	147.05	150.46	147.13	132.26	131.32	128.13	135.00	140.10	132.29	138.65
82.50°	112.77	120.05	121.37	119.13	129.34	123.23	127.03	125.32	122.78	123.52	108.35	105.57	100.27	104.97	113.71	110.15	112.77
85.00°	90.96	97.88	99.58	99.94	105.76	99.72	106.68	103.86	98.04	100.79	87.30	81.70	82.03	85.60	91.12	89.82	90.96
87.50°	74.07	77.29	79.22	82.93	87.23	84.99	85.34	86.32	78.01	81.50	73.80	72.22	65.55	66.59	72.11	70.03	74.07
90.00°	62.73	66.27	68.78	73.56	70.47	71.82	70.36	70.25	65.55	65.80	63.51	64.08	61.77	63.58	60.32	62.92	62.73
92.50°	57.46	60.22	65.21	66.75	67.25	69.09	67.42	68.78	64.19	62.25	60.83	64.30	59.34	60.78	54.76	59.06	57.46
95.00°	57.88	61.92	66.40	68.43	68.18	67.91	67.31	68.04	64.39	60.76	60.73	65.31	65.02	63.37	56.19	59.20	57.88
97.50°	63.92	67.20	70.58	72.64	72.81	77.24	72.00	72.72	66.67	65.40	66.13	70.45	70.62	66.16	63.05	60.21	63.92
100.00°	68.40	69.64	77.47	81.12	78.45	87.77	75.82	76.16	69.60	69.01	71.74	74.77	75.84	72.11	66.85	65.77	68.40
102.50°	71.45	70.94	85.90	90.70	82.05	87.64	78.31	71.90	73.29	69.97	77.75	75.47	78.93	77.61	68.54	72.17	71.45
105.00°	66.55	57.91	85.50	91.34	85.18	86.63	78.09	64.51	68.31	64.48	80.20	75.33	73.26	78.32	70.65	65.66	66.55

### 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	14822	14822	14822	14822	14452	14452	14452	14452	13763	13763	13763	13132	13132	13132	12553	12553	12553
	1	14006	13609	13252	12931	13670	13315	12995	12704	12766	12509	12273	12261	12057	11868	11796	11637	11488
	2	13223	12538	11972	11496	12917	12301	11786	11349	11856	11432	11066	11445	11099	10796	11066	10786	10537
	3	12488	11599	10912	10364	12211	11405	10774	10265	11040	10509	10071	10702	10258	9885	10389	10020	9705
	4	11804	10772	10017	9440	11552	10612	9912	9371	10309	9710	9235	10028	9517	9103	9766	9333	8974
	5	11168	10038	9249	8667	10940	9904	9168	8617	9651	9010	8519	9414	8859	8423	9194	8714	8329
	6	10578	9384	8582	8006	10372	9270	8517	7969	9056	8392	7896	8855	8271	7825	8668	8155	7755
	7	10032	8796	7995	7433	9845	8700	7943	7405	8517	7842	7350	8345	7744	7296	8184	7650	7242
	8	9527	8267	7475	6931	9357	8185	7433	6909	8027	7350	6867	7879	7270	6824	7740	7192	6783
	9	9059	7790	7012	6487	8905	7718	6977	6470	7582	6908	6436	7453	6841	6402	7332	6777	6369
	10	8627	7357	6597	6091	8486	7295	6567	6077	7175	6509	6050	7063	6453	6023	6956	6399	5996

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	446.9 fc	6.1 ft
6.5 ft	320.0 fc	7.2 ft
7.5 ft	240.3 fc	8.3 ft
8.0 ft	211.2 fc	8.9 ft
10.0 ft	135.2 fc	11.1 ft
12.0 ft	93.9 fc	13.3 ft
14.0 ft	69.0 fc	15.5 ft
16.0 ft	52.8 fc	17.7 ft
20.0 ft	33.8 fc	22.2 ft
24.0 ft	23.5 fc	26.6 ft
28.0 ft	17.2 fc	31.0 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	104738	104738	104738
45.00°	5515	5359	5943
55.00°	2209	2219	2371
65.00°	1642	1684	1750
75.00°	1254	1291	1367
85.00°	731	800	849

**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