Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

PRDDH12GV 55L 35K XX PR12 NL MW

Nom 12 inch diam, high bay, mid bay, low bay application

Test Number

SP-00456_34

Test Date

3/9/2021

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

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Summary of Results

Power

Input Watts	39 W

Lumen Output

Output Lumens	5079
Efficacy	130.22 lm/W

Luminous Dimensions

0° - 180° Size	-1
90° - 270° Size	-1
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.68
Two luminaires, plane 90°	0.68
Four luminaires	0.83

Full Beam Angle

0° - 180°	50°
90° - 270°	49°

IES File Header Contents

Keyword	Value
TEST	SP-00456_34
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	3/9/2021
ISSUEDATE	3/19/2021
LUMCAT	PRDDH12GV 55L 35K XX PR12 NL MW
LUMINAIRE	Nom 12 inch diam, high bay, mid bay, low bay application
OTHER	Prismatic refractor, no door, no lens
OTHER	Beam angle: 50 degrees
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multiplier: 27K x 0.97, 30K x 0.99, 40K x 1.03
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	83
_CCTMULT	27K x 0.97, 30K x 0.99, 40K x 1.03
_CCTMULTA	50K x 1.06
_LAMPMULT	15L x 0.27, 27L x 0.46, 37L x 0.68

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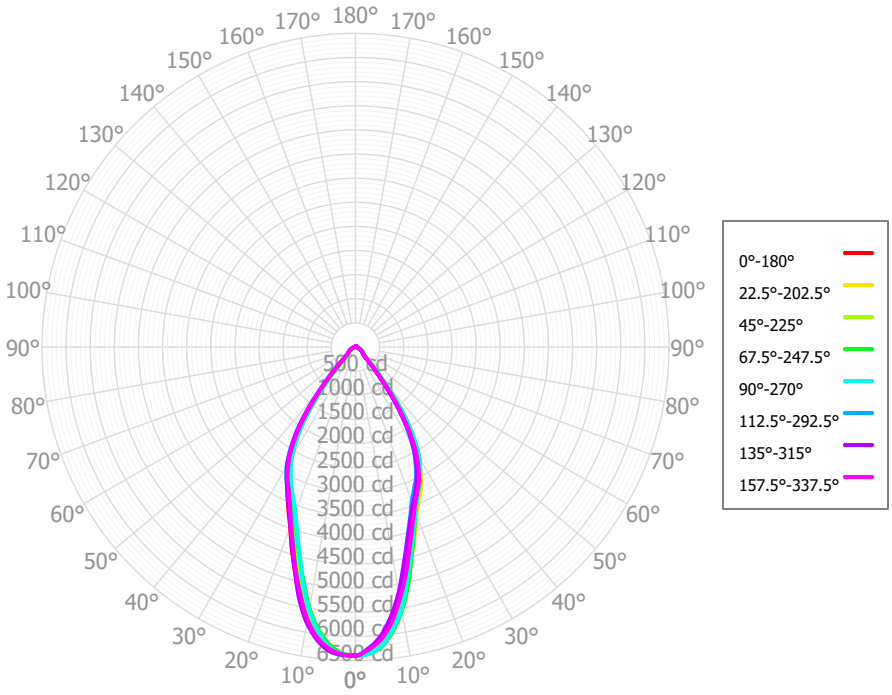
Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	577.32	11.37%	90.00° - 100.00°	15.31	0.30%
10.00° - 20.00°	1262.18	24.85%	100.00° - 110.00°	10.67	0.21%
20.00° - 30.00°	1451.10	28.57%	100.00° - 120.00°	21.40	0.42%
30.00° - 40.00°	1098.25	21.62%	120.00° - 130.00°	12.24	0.24%
40.00° - 50.00°	291.54	5.74%	130.00° - 140.00°	11.98	0.24%
50.00° - 60.00°	147.62	2.91%	140.00° - 150.00°	7.35	0.14%
60.00° - 70.00°	97.23	1.91%	150.00° - 160.00°	2.69	0.05%
70.00° - 80.00°	53.75	1.06%	160.00° - 170.00°	0.93	0.02%
80.00° - 90.00°	27.51	0.54%	170.00° - 180.00°	0.25	0.00%
0.00° - 90.00°	5006.50	98.58%	0.00° - 180.00°	5078.65	100.00%

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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°	6397.39	6397.39	6397.39	6397.39	6397.39	6397.39	6397.39	6397.39	6397.39	6397.39	6397.39	6397.39	6397.39	6397.39	6397.39	6397.39	6397.39
2.50°	6301.25	6337.25	6361.51	6364.33	6369.53	6395.00	6386.14	6378.13	6374.58	6365.01	6374.50	6357.51	6371.14	6249.56	6259.27	6281.10	6301.25
5.00°	6138.87	6220.86	6168.34	6237.56	6218.28	6322.41	6322.23	6277.20	6319.19	6261.08	6246.57	6194.54	6256.83	6048.80	6013.54	6092.90	6138.87
7.50°	5774.22	5909.44	5897.09	5947.23	5914.77	6085.67	6123.04	6076.31	6086.08	6001.53	6023.53	5899.13	5947.65	5652.71	5633.91	5760.87	5774.22
10.00°	5366.75	5541.92	5455.97	5543.46	5508.00	5764.23	5805.44	5736.48	5803.93	5675.46	5637.56	5496.48	5532.51	5183.08	5163.11	5306.50	5366.75
12.50°	4846.32	5040.85	4938.55	5046.73	4953.22	5272.52	5371.25	5267.53	5340.52	5180.14	5195.64	4972.04	5020.55	4666.22	4609.98	4825.08	4846.32
15.00°	4360.84	4505.84	4455.61	4490.88	4443.01	4785.11	4841.84	4793.87	4832.05	4698.64	4665.98	4487.31	4460.59	4133.08	4149.32	4322.19	4360.84
17.50°	3958.64	4086.28	3986.92	4034.18	3992.33	4305.55	4371.44	4316.18	4388.86	4249.50	4195.07	4044.68	4021.91	3747.35	3765.48	3914.30	3958.64
20.00°	3602.57	3693.02	3632.49	3635.22	3623.34	3884.89	3945.35	3906.72	3959.84	3845.28	3808.68	3685.00	3637.90	3407.06	3472.32	3575.68	3602.57
22.50°	3347.83	3439.73	3320.73	3357.72	3354.65	3562.92	3611.53	3550.90	3637.82	3536.50	3493.02	3406.24	3375.34	3173.84	3248.42	3316.01	3347.83
25.00°	3081.35	3214.06	3073.95	3145.86	3115.51	3293.63	3341.33	3274.26	3335.81	3247.06	3272.17	3159.14	3163.25	2969.92	3000.98	3109.17	3081.35
27.50°	2791.42	2918.26	2848.96	2900.50	2909.75	3106.43	3082.33	3055.68	3056.87	2995.01	3016.12	2940.46	2910.52	2688.71	2736.77	2831.48	2791.42
30.00°	2467.59	2610.67	2538.58	2638.65	2630.31	2855.45	2830.53	2772.00	2781.69	2702.52	2716.70	2645.36	2642.53	2388.46	2398.50	2509.67	2467.59
32.50°	2081.03	2212.58	2202.12	2267.66	2273.20	2513.29	2493.54	2444.51	2417.66	2337.53	2353.27	2286.22	2272.12	1968.79	2011.87	2095.52	2081.03
35.00°	1642.92	1801.35	1724.88	1847.80	1821.17	2097.84	2106.50	2010.97	2041.56	1910.34	1916.24	1826.82	1867.19	1523.45	1539.01	1628.76	1642.92
37.50°	1117.61	1286.82	1209.47	1356.04	1277.04	1584.79	1624.67	1511.01	1527.25	1381.12	1442.49	1290.18	1374.67	1060.77	1013.77	1160.69	1117.61
40.00°	691.35	760.04	791.91	834.61	829.70	1101.53	1091.95	1037.21	997.77	912.48	929.87	847.17	855.28	594.87	642.43	691.92	691.35
42.50°	418.50	491.14	397.67	518.14	468.77	654.74	695.39	578.39	640.81	534.91	562.38	470.41	548.42	398.24	356.60	433.80	418.50
45.00°	244.15	247.39	271.18	278.00	276.33	369.67	366.58	350.34	299.20	289.52	336.16	283.25	299.47	245.06	240.47	277.12	244.15
47.50°	211.83	206.91	201.60	201.64	224.29	266.70	241.84	243.07	236.29	229.17	216.85	221.02	231.39	211.68	210.38	215.76	211.83
50.00°	189.56	181.27	181.88	180.06	194.10	205.34	209.41	196.92	191.47	189.94	194.69	189.73	206.66	194.36	194.94	196.09	189.56
52.50°	180.61	172.46	171.28	171.24	180.65	187.70	189.07	180.38	179.38	177.87	177.62	177.11	188.78	184.26	186.38	183.18	180.61
55.00°	166.63	164.47	158.83	166.31	165.19	171.39	173.68	163.83	168.66	164.65	164.79	163.23	172.36	174.94	170.46	172.94	166.63
57.50°	146.55	146.69	146.10	149.70	148.27	156.35	156.56	147.28	153.03	150.09	148.07	148.65	154.27	151.74	151.41	152.17	146.55
60.00°	127.19	128.59	126.13	129.93	130.35	141.00	138.78	130.60	137.27	133.82	128.31	130.49	135.88	127.32	131.18	127.57	127.19
62.50°	108.65	111.04	105.20	113.23	111.76	125.38	121.44	113.87	119.28	115.67	110.91	110.51	117.98	109.45	110.49	109.42	108.65
65.00°	91.99	93.56	92.92	97.26	95.46	109.64	104.25	98.58	101.34	99.23	95.21	93.82	100.16	91.99	93.72	93.36	91.99
67.50°	77.29	81.69	81.56	84.09	80.55	93.80	89.12	83.82	86.55	84.53	82.62	78.67	83.69	77.48	78.32	79.57	77.29
70.00°	64.94	69.88	69.36	71.50	68.00	79.38	74.62	72.10	71.94	71.30	72.07	68.05	67.40	63.08	67.20	66.43	64.94
72.50°	54.84	60.27	57.09	59.30	56.77	66.03	63.88	61.38	62.27	59.45	61.60	59.35	56.69	54.62	57.43	57.21	54.84
75.00°	45.58	50.82	49.82	47.17	47.72	54.62	54.17	52.32	52.74	50.84	51.18	50.32	46.57	46.30	47.87	49.01	45.58
77.50°	37.07	44.51	42.87	40.75	39.79	44.58	46.38	43.75	45.63	45.07	43.06	41.15	40.25	39.42	38.37	41.60	37.07
80.00°	30.98	38.12	36.24	35.23	32.12	36.59	39.06	36.38	38.65	39.06	36.24	36.04	34.23	32.54	32.27	34.38	30.98
82.50°	26.90	30.80	29.63	30.31	24.56	29.94	32.59	29.32	33.21	32.85	30.97	32.35	28.37	25.81	27.04	29.05	26.90
85.00°	22.86	23.79	25.43	25.46	20.88	25.24	26.31	23.88	27.77	27.07	26.49	27.63	22.52	19.25	22.76	24.11	22.86
87.50°	18.84	20.17	21.28	21.20	18.86	21.71	21.76	18.81	22.32	21.60	22.43	22.59	19.80	16.95	18.69	20.91	18.84
90.00°	16.73	16.86	18.28	17.00	16.66	18.93	17.54	16.17	17.34	17.85	18.57	18.92	17.21	14.71	16.88	18.02	16.73
92.50°	15.98	16.16	15.30	15.58	14.40	16.56	16.08	14.04	16.04	15.27	15.67	15.63	15.74	13.50	15.50	16.38	15.98
95.00°	14.73	15.35	12.95	14.40	13.71	14.13	15.04	12.92	14.77	13.06	13.18	14.65	14.28	12.35	13.56	14.93	14.73
97.50°	13.15	13.77	10.69	12.21	13.56	11.66	13.28	11.97	13.69	11.09	11.92	14.25	12.14	11.92	11.54	12.14	13.15
100.00°	11.13	12.20	10.29	9.96	11.97	10.31	11.42	10.49	12.66	10.48	11.15	12.86	10.05	11.47	10.79	9.19	11.13
102.50°	8.83	10.59	9.94	9.80	9.92	9.49	10.89	8.92	11.98	10.67	10.77	11.26	10.85	10.82	10.23	8.75	8.83
105.00°	8.83	9.40	10.53	9.73	9.08	9.51	10.51	8.80	11.31	10.48	10.54	10.18	11.57	10.20	9.19	8.55	8.83
107.50°	10.10	10.24	11.07	10.76	8.57	9.89	9.40	8.87	10.70	10.09	10.36	9.21	10.03	9.83	8.09	9.28	10.10
110.00°	9.96	11.00	10.95	11.82	9.83	10.32	8.23	9.90	10.24	9.28	10.20	8.86	8.62	9.56	8.59	10.08	9.96
112.50°	9.13	11.41	10.93	11.53	11.53	10.78	8.44	11.04	10.42	8.27	9.88	8.63	9.23	9.87	9.24	11.48	9.13

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Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
RCR	0	6029	6029	6029	6029	5880	5880	5880	5880	5603	5603	5603	5349	5349	5349	5116	5116	5116	5006
	1	5713	5558	5419	5293	5579	5440	5315	5202	5220	5120	5029	5018	4939	4866	4831	4770	4712	4668
	2	5403	5134	4911	4724	5281	5039	4837	4665	4861	4695	4551	4697	4562	4443	4546	4436	4339	4342
	3	5110	4759	4487	4271	5000	4682	4432	4231	4536	4326	4153	4401	4226	4079	4276	4131	4007	4046
	4	4836	4427	4127	3898	4736	4363	4085	3871	4242	4004	3816	4130	3928	3764	4026	3854	3712	3777
	5	4580	4131	3817	3585	4489	4077	3784	3565	3976	3722	3526	3883	3662	3488	3795	3604	3451	3534
	6	4342	3866	3546	3317	4260	3821	3521	3302	3736	3471	3274	3656	3423	3245	3582	3377	3218	3315
	7	4121	3628	3308	3084	4047	3590	3288	3073	3517	3248	3051	3449	3209	3030	3385	3172	3009	3115
	8	3917	3414	3097	2880	3849	3381	3080	2871	3319	3048	2854	3260	3016	2838	3205	2986	2822	2935
	9	3728	3220	2909	2699	3666	3192	2895	2692	3138	2868	2679	3087	2842	2666	3039	2816	2653	2770
	10	3553	3044	2740	2537	3497	3020	2728	2532	2972	2706	2521	2928	2684	2511	2886	2662	2501	2621

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	211.5 fc	4.9 ft
6.5 ft	151.4 fc	5.8 ft
7.5 ft	113.7 fc	6.7 ft
8.0 ft	100.0 fc	7.1 ft
10.0 ft	64.0 fc	8.9 ft
12.0 ft	44.4 fc	10.7 ft
14.0 ft	32.6 fc	12.5 ft
16.0 ft	25.0 fc	14.3 ft
20.0 ft	16.0 fc	17.8 ft
24.0 ft	11.1 fc	21.4 ft
28.0 ft	8.2 fc	25.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	87676	87676	87676
45.00°	4732	5256	5356
55.00°	3982	3795	3947
65.00°	2983	3013	3096
75.00°	2413	2638	2527
85.00°	3594	4000	3284

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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	10.6	11.6	11.0	12.0	12.3	10.8	11.8	11.2	12.1	12.5
	3H	11.8	12.7	12.2	13.0	13.4	12.0	12.9	12.4	13.3	13.7
	4H	12.2	13.1	12.7	13.5	13.9	12.5	13.3	12.9	13.7	14.2
	6H	12.6	13.4	13.1	13.8	14.2	12.9	13.7	13.3	14.1	14.5
	8H	12.8	13.6	13.3	14.0	14.4	13.1	13.8	13.5	14.2	14.7
	12H	13.0	13.7	13.5	14.2	14.6	13.3	14.0	13.7	14.4	14.9
4H	2H	10.9	11.8	11.4	12.2	12.6	11.1	12.0	11.6	12.4	12.8
	3H	12.3	13.0	12.8	13.5	13.9	12.6	13.3	13.1	13.8	14.2
	4H	12.9	13.6	13.4	14.0	14.5	13.2	13.9	13.7	14.3	14.8
	6H	13.5	14.1	14.0	14.5	15.0	13.8	14.4	14.3	14.8	15.3
	8H	13.8	14.3	14.3	14.8	15.3	14.1	14.6	14.6	15.1	15.6
	12H	14.1	14.5	14.6	15.1	15.6	14.4	14.8	14.9	15.3	15.8
8H	4H	13.1	13.6	13.6	14.1	14.6	13.5	14.0	14.0	14.4	15.0
	6H	13.9	14.3	14.4	14.8	15.4	14.2	14.6	14.8	15.2	15.7
	8H	14.3	14.7	14.9	15.2	15.8	14.6	15.0	15.2	15.5	16.1
	12H	14.8	15.1	15.4	15.6	16.3	15.1	15.4	15.6	15.9	16.5
12H	4H	13.1	13.6	13.7	14.1	14.6	13.5	13.9	14.0	14.4	14.9
	6H	14.0	14.3	14.5	14.8	15.4	14.3	14.7	14.9	15.2	15.7
	8H	14.5	14.8	15.0	15.3	15.9	14.8	15.1	15.3	15.6	16.2

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0

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