

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx 835 020 DLNFGP MW

Test Number

SP-00759_2

Test Date

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

Summary of Results

Power

Input Watts	15 W
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Lumen Output

Output Lumens	1347
Efficacy	89.79 lm/W

Luminous Dimensions

0° - 180° Size	-0.2
90° - 270° Size	-0.2
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.47
Two luminaires, plane 90°	0.48
Four luminaires	0.49

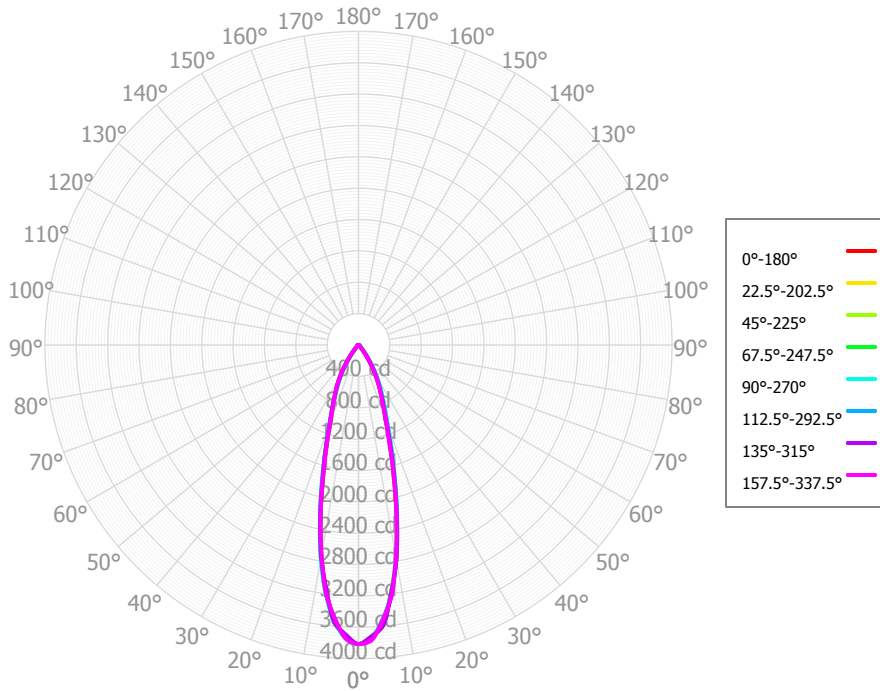
Full Beam Angle

0° - 180°	28°
90° - 270°	29°

IES File Header Contents

Keyword	Value
TEST	SP-00759_2
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/8/2019
UPDATE	2/27/2019
LUMCAT	IF03RMx xx 835 020 DLNFGP MW
LUMINIARE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 28 degrees
OTHER	Narrow flood optic, Solite lens
OTHER	Aluminum bezel contains lens
LAMPCAT	N/A
LAMP	N/A, CRI: 80, Philips
OTHER	CCT Multipliers: 40K x 1.03
OTHER	Total luminaire wattages is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	80
_CCTMULT	40K x 1.03
_LAMPMULT	07L x 0.40, 10L x 0.56, 15L x 0.78

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	314.67	23.36%	90.00° - 100.00°	0.08	0.01%
10.00° - 20.00°	486.68	36.13%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	322.16	23.92%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	147.76	10.97%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	34.88	2.59%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	18.05	1.34%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	13.19	0.98%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	7.59	0.56%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.83	0.14%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,346.80	99.99%	0.00° - 180.00°	1,346.88	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°	3,815.30	3,815.30	3,815.30	3,815.30	3,815.30	3,815.30	3,815.30	3,815.30	3,815.30	3,815.30	3,815.30	3,815.30	3,815.30	3,815.30	3,815.30	3,815.30	3,815.30
2.50°	3,726.50	3,745.37	3,724.01	3,727.76	3,739.66	3,749.64	3,701.01	3,748.54	3,707.13	3,736.20	3,721.08	3,720.86	3,744.76	3,762.85	3,724.95	3,772.78	3,726.50
5.00°	3,594.85	3,526.66	3,555.62	3,560.91	3,539.96	3,500.40	3,551.40	3,496.33	3,549.17	3,517.64	3,542.18	3,558.87	3,538.95	3,515.05	3,594.45	3,529.08	3,594.85
7.50°	3,186.82	3,199.64	3,182.15	3,191.14	3,202.27	3,201.20	3,149.22	3,188.14	3,150.90	3,186.09	3,173.93	3,183.21	3,201.53	3,225.15	3,194.13	3,233.50	3,186.82
10.00°	2,774.70	2,753.78	2,751.15	2,780.67	2,754.62	2,726.61	2,741.95	2,714.36	2,741.61	2,725.64	2,761.38	2,757.32	2,772.08	2,750.59	2,783.37	2,751.93	2,774.70
12.50°	2,244.49	2,239.33	2,255.04	2,271.29	2,280.41	2,253.71	2,242.47	2,239.34	2,232.09	2,250.08	2,253.29	2,267.15	2,265.69	2,249.90	2,258.66	2,237.18	2,244.49
15.00°	1,724.98	1,776.16	1,744.24	1,798.02	1,787.58	1,785.66	1,754.41	1,761.23	1,740.78	1,759.32	1,783.04	1,765.16	1,805.70	1,788.08	1,750.00	1,764.52	1,724.98
17.50°	1,350.74	1,338.35	1,378.09	1,400.44	1,403.49	1,374.18	1,391.63	1,347.43	1,367.23	1,367.00	1,382.56	1,396.47	1,379.36	1,330.06	1,364.40	1,297.61	1,350.74
20.00°	997.25	1,053.76	1,037.30	1,073.57	1,085.24	1,100.14	1,051.54	1,070.93	1,027.73	1,060.76	1,060.04	1,046.65	1,076.64	1,070.11	1,010.36	1,036.88	997.25
22.50°	830.55	834.70	850.01	873.59	872.55	868.20	880.24	846.49	860.13	849.38	861.20	863.11	852.63	822.28	834.74	795.33	830.55
25.00°	669.29	680.89	683.22	702.77	715.66	724.54	716.87	717.06	704.89	711.09	696.89	695.83	689.87	685.28	668.57	663.20	669.29
27.50°	542.90	550.55	557.20	577.72	582.96	589.34	598.46	592.28	598.97	588.81	580.65	571.77	560.69	551.03	545.01	537.28	542.90
30.00°	417.93	423.77	434.87	455.95	461.16	469.32	479.44	474.92	488.64	477.23	464.02	450.35	439.72	430.67	423.69	415.68	417.93
32.50°	299.89	298.06	320.08	338.64	347.83	353.99	357.71	359.31	363.65	362.01	346.91	338.49	322.66	311.56	310.50	294.64	299.89
35.00°	191.89	203.87	205.69	236.57	237.77	246.00	244.26	246.10	248.45	244.65	244.41	227.36	228.46	219.85	207.74	202.47	191.89
37.50°	123.73	117.47	140.40	152.70	162.42	159.64	160.82	156.51	160.23	160.93	157.45	157.44	143.50	131.94	136.02	113.08	123.73
40.00°	67.43	77.32	76.58	94.04	98.29	102.62	90.83	95.19	89.09	94.06	97.40	89.47	94.96	88.65	77.97	79.18	67.43
42.50°	49.51	46.20	56.24	61.58	67.03	63.47	60.94	55.52	58.22	59.94	62.25	64.37	58.74	48.97	54.58	47.27	49.51
45.00°	34.99	35.02	36.66	41.60	44.48	45.67	37.45	38.70	35.46	39.77	41.06	40.66	42.74	38.68	36.75	37.56	34.99
47.50°	29.75	26.87	31.40	32.90	34.57	34.06	29.91	28.42	28.97	30.02	31.26	33.24	32.50	29.33	30.84	28.49	29.75
50.00°	25.09	24.38	26.30	26.56	27.40	28.88	23.89	24.13	23.75	24.07	25.27	26.37	27.04	25.58	26.01	24.49	25.09
52.50°	21.79	22.49	22.75	22.11	24.34	24.47	21.12	20.65	20.70	20.84	21.98	23.96	22.68	22.08	23.20	20.89	21.79
55.00°	19.23	19.03	19.48	20.10	21.98	20.76	18.84	17.82	18.11	18.43	19.45	21.55	20.61	19.75	20.82	19.62	19.23
57.50°	18.16	15.46	18.34	19.76	19.39	18.84	17.48	16.24	16.20	16.86	17.37	19.10	18.97	17.36	19.13	18.28	18.16
60.00°	16.78	15.81	16.97	18.13	16.78	18.36	15.82	15.52	15.36	15.51	15.54	16.71	17.72	14.76	16.92	16.67	16.78
62.50°	14.89	16.28	14.34	15.71	16.15	17.44	13.67	14.48	15.92	14.08	13.84	14.63	16.53	12.60	14.00	14.99	14.89
65.00°	12.87	13.45	12.16	14.18	15.68	16.21	12.53	13.25	14.80	12.64	12.91	12.37	13.95	11.77	11.82	13.11	12.87
67.50°	10.63	10.72	11.97	13.12	13.68	14.53	12.66	11.36	11.96	10.89	12.30	9.64	11.39	10.77	10.54	11.15	10.63
70.00°	9.30	9.51	11.44	11.92	11.60	12.65	11.78	9.20	10.13	9.32	9.96	8.73	9.53	9.41	8.94	9.00	9.30
72.50°	8.93	8.33	9.96	10.66	9.16	10.81	10.32	9.05	8.81	8.91	7.80	9.67	7.77	7.85	7.07	7.27	8.93
75.00°	7.09	7.28	7.94	8.80	7.33	8.73	7.59	7.85	7.87	7.69	6.63	8.39	6.18	6.09	6.29	6.03	7.09
77.50°	4.83	5.57	5.37	6.75	7.19	6.21	5.79	4.75	6.24	5.83	5.15	5.96	5.26	4.59	5.46	4.44	4.83
80.00°	3.24	3.61	3.19	4.34	5.37	4.43	4.47	4.43	4.30	3.72	3.39	3.31	2.99	3.19	3.29	2.92	3.24
82.50°	2.16	2.35	1.83	2.27	2.97	2.46	2.44	2.60	2.66	1.89	1.69	1.93	1.28	1.90	1.67	1.76	2.16
85.00°	1.34	1.63	1.31	1.54	1.17	1.17	1.02	1.37	1.44	1.19	2.00	1.14	1.28	0.76	1.04	1.23	1.34
87.50°	1.29	1.00	1.32	1.68	1.37	0.97	1.22	0.99	1.49	1.42	1.17	1.50	0.00	1.18	0.98	1.09	1.29
90.00°	1.05	0.74	0.98	1.86	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15	1.07	1.33	1.05
92.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	1,603	1,603	1,603	1,603	1,566	1,566	1,566	1,566	1,496	1,496	1,496	1,433	1,433	1,433	1,374	1,374	1,347
	1	1,537	1,503	1,472	1,445	1,504	1,474	1,446	1,422	1,419	1,398	1,378	1,370	1,353	1,337	1,324	1,311	1,299
	2	1,472	1,413	1,365	1,324	1,443	1,390	1,346	1,309	1,347	1,311	1,281	1,308	1,279	1,253	1,271	1,248	1,227
	3	1,410	1,334	1,275	1,229	1,385	1,316	1,262	1,219	1,282	1,237	1,200	1,250	1,212	1,181	1,220	1,189	1,167
	4	1,353	1,265	1,200	1,151	1,330	1,250	1,190	1,144	1,222	1,171	1,130	1,196	1,153	1,118	1,172	1,135	1,115
	5	1,299	1,202	1,135	1,085	1,279	1,190	1,127	1,080	1,167	1,113	1,071	1,146	1,099	1,061	1,126	1,085	1,066
	6	1,249	1,146	1,077	1,028	1,231	1,136	1,072	1,024	1,117	1,060	1,018	1,099	1,049	1,011	1,083	1,039	1,021
	7	1,202	1,095	1,026	978	1,186	1,087	1,022	976	1,071	1,013	971	1,056	1,004	966	1,042	996	980
	8	1,158	1,049	981	934	1,143	1,042	977	932	1,028	970	928	1,016	963	925	1,004	956	942
	9	1,117	1,007	939	894	1,103	1,001	936	893	989	931	890	978	925	887	968	920	906
	10	1,078	968	902	858	1,066	963	899	857	953	895	855	943	890	853	934	886	873

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	126.1 fc	2.8 ft
6.5 ft	90.3 fc	3.3 ft
7.5 ft	67.8 fc	3.8 ft
8.0 ft	59.6 fc	4.1 ft
10.0 ft	38.2 fc	5.1 ft
12.0 ft	26.5 fc	6.1 ft
14.0 ft	19.5 fc	7.1 ft
16.0 ft	14.9 fc	8.1 ft
20.0 ft	9.5 fc	10.2 ft
24.0 ft	6.6 fc	12.2 ft
28.0 ft	4.9 fc	14.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1,307,220	1,307,220	1,307,220
45.00°	16,953	17,762	21,554
55.00°	11,489	11,636	13,128
65.00°	10,432	9,856	12,715
75.00°	9,390	10,506	9,707
85.00°	5,276	5,139	4,595

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	11.6	12.6	12.0	12.9	13.2	12.3	13.3	12.7	13.6	13.9
	3H	13.2	14.0	13.6	14.4	14.7	14.0	14.9	14.4	15.2	15.6
	4H	13.9	14.7	14.3	15.0	15.4	14.6	15.4	15.0	15.8	16.2
	6H	14.2	14.9	14.6	15.3	15.7	15.1	15.8	15.5	16.2	16.6
	8H	14.3	14.9	14.7	15.3	15.7	15.1	15.8	15.6	16.2	16.6
	12H	14.3	14.9	14.7	15.3	15.7	15.1	15.8	15.6	16.2	16.6
4H	2H	12.0	12.8	12.5	13.2	13.6	12.7	13.5	13.1	13.8	14.2
	3H	13.9	14.5	14.3	14.9	15.3	14.7	15.3	15.1	15.7	16.1
	4H	14.7	15.2	15.1	15.7	16.1	15.5	16.1	15.9	16.5	17.0
	6H	15.1	15.6	15.6	16.0	16.5	16.0	16.5	16.5	17.0	17.5
	8H	15.2	15.6	15.6	16.1	16.5	16.1	16.6	16.6	17.0	17.5
	12H	15.2	15.6	15.7	16.1	16.6	16.1	16.5	16.6	17.0	17.5
8H	4H	14.9	15.4	15.4	15.8	16.3	15.7	16.1	16.2	16.6	17.1
	6H	15.4	15.8	15.9	16.3	16.7	16.3	16.7	16.8	17.2	17.6
	8H	15.5	15.8	16.1	16.4	16.9	16.4	16.7	17.0	17.3	17.8
	12H	15.6	15.9	16.2	16.4	17.0	16.5	16.7	17.0	17.2	17.8
12H	4H	14.9	15.3	15.4	15.8	16.3	15.7	16.1	16.2	16.5	17.0
	6H	15.4	15.7	15.9	16.2	16.7	16.3	16.6	16.8	17.1	17.6
	8H	15.6	15.8	16.1	16.3	16.9	16.4	16.7	17.0	17.2	17.8

Corrected UGR values based on total output lumens

SHR = 1.0