

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx 835 020 DLFLGN MW
Nominal 3" diam round recessed Infinium downlight

Test Number

SP-00758_1

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	1383
Efficacy	92.17 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.6
Two luminaires, plane 90°	0.61
Four luminaires	0.63

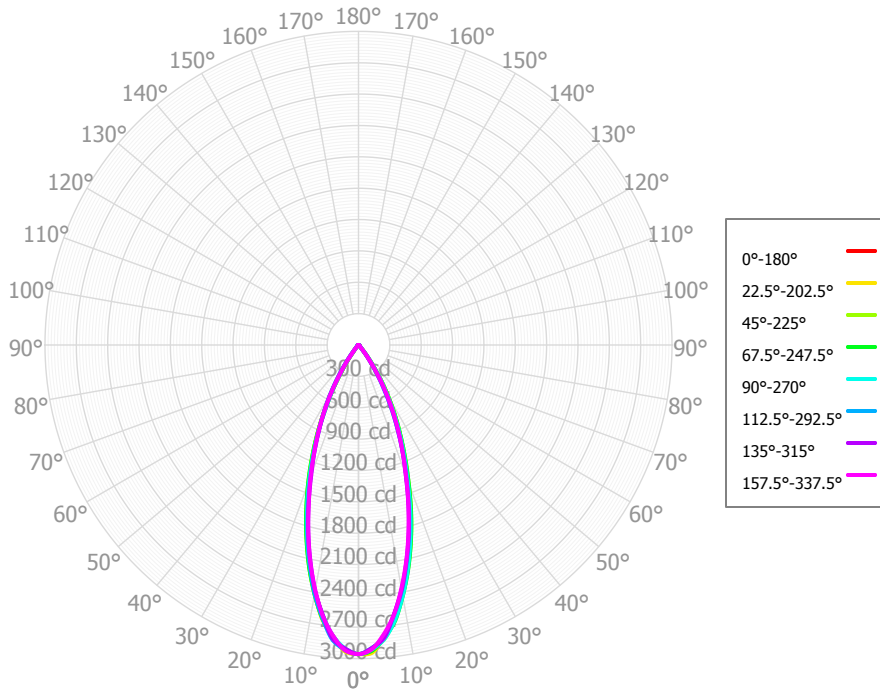
Full Beam Angle

0° - 180°	38°
90° - 270°	38°

IES File Header Contents

Keyword	Value
TEST	SP-00758_1
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/8/2019
UPDATE	2/27/2019
LUMCAT	IF03RMx xx 835 020 DLFLGN MW
LUMINAIRE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 38 degrees
OTHER	Flood optic, open aperture / no lens
OTHER	Aluminum bezel
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°	257.67	18.64%	90.00° - 100.00°	0.07	0.01%
10.00° - 20.00°	516.97	37.39%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	412.30	29.82%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	144.09	10.42%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	19.98	1.45%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	11.92	0.86%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	10.86	0.79%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	6.93	0.50%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.72	0.12%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,382.44	99.99%	0.00° - 180.00°	1,382.51	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°	2,957.92	2,957.92	2,957.92	2,957.92	2,957.92	2,957.92	2,957.92	2,957.92	2,957.92	2,957.92	2,957.92	2,957.92	2,957.92	2,957.92	2,957.92	2,957.92	2,957.92
2.50°	2,908.48	2,949.16	2,916.20	2,929.61	2,915.35	2,919.78	2,908.38	2,925.89	2,913.41	2,936.27	2,915.72	2,908.70	2,903.29	2,903.55	2,915.57	2,908.48	
5.00°	2,799.27	2,797.72	2,825.05	2,814.47	2,826.57	2,835.67	2,825.48	2,792.15	2,807.79	2,799.27	2,816.99	2,795.84	2,796.27	2,809.57	2,813.88	2,778.01	2,799.27
7.50°	2,606.32	2,641.16	2,647.81	2,667.56	2,659.55	2,637.32	2,610.25	2,617.27	2,613.52	2,650.72	2,636.93	2,641.87	2,611.76	2,605.79	2,598.34	2,602.94	2,606.32
10.00°	2,380.38	2,401.01	2,433.38	2,437.73	2,437.27	2,420.47	2,390.58	2,381.71	2,394.77	2,416.05	2,425.79	2,416.42	2,396.56	2,385.92	2,377.86	2,363.41	2,380.38
12.50°	2,129.89	2,159.37	2,189.54	2,197.91	2,185.35	2,154.75	2,123.56	2,128.95	2,143.53	2,174.58	2,176.48	2,180.29	2,157.34	2,130.72	2,118.43	2,113.12	2,129.89
15.00°	1,872.01	1,899.68	1,935.68	1,937.68	1,916.56	1,885.47	1,855.82	1,856.86	1,882.16	1,898.96	1,920.81	1,921.75	1,901.62	1,872.46	1,856.87	1,847.47	1,872.01
17.50°	1,606.93	1,640.04	1,668.23	1,673.32	1,644.04	1,608.84	1,583.49	1,580.83	1,609.53	1,630.23	1,658.68	1,661.11	1,635.14	1,605.02	1,583.75	1,585.03	1,606.93
20.00°	1,340.27	1,380.74	1,397.32	1,402.23	1,369.83	1,346.75	1,320.23	1,339.11	1,359.37	1,386.30	1,406.02	1,407.07	1,380.09	1,337.96	1,320.95	1,326.32	1,340.27
22.50°	1,119.01	1,132.28	1,165.17	1,156.56	1,137.90	1,109.40	1,097.89	1,101.98	1,129.52	1,146.43	1,161.16	1,153.52	1,131.01	1,105.28	1,097.35	1,097.00	1,119.01
25.00°	904.86	935.97	940.32	945.45	921.36	893.34	883.51	897.05	909.88	917.80	922.46	914.68	897.93	874.80	881.09	895.37	904.86
27.50°	719.93	743.49	751.93	748.05	727.99	706.48	695.43	694.69	697.76	696.57	687.92	678.86	671.44	674.80	685.78	704.05	719.93
30.00°	537.68	564.30	567.91	565.79	540.99	531.21	514.86	510.93	503.74	491.59	486.28	489.40	488.82	480.91	502.42	520.85	537.68
32.50°	374.96	394.03	406.55	400.98	385.92	368.87	353.57	329.29	320.80	311.98	302.87	307.78	320.66	334.06	346.42	359.22	374.96
35.00°	213.74	247.26	246.53	251.86	237.14	233.07	213.71	204.20	191.27	176.65	179.53	187.85	200.51	197.90	211.71	211.35	213.74
37.50°	125.88	128.59	147.85	143.81	141.50	122.04	117.71	86.12	87.81	82.76	82.58	82.76	92.10	115.33	115.64	118.14	125.88
40.00°	42.73	69.87	53.09	66.64	53.11	59.72	51.66	56.96	47.38	47.96	44.81	53.36	55.08	47.44	51.02	52.87	42.73
42.50°	29.98	29.89	35.26	30.85	33.05	34.35	34.52	30.62	31.06	27.02	27.55	29.13	30.18	33.46	32.30	28.45	29.98
45.00°	18.36	21.77	18.80	20.18	18.02	22.02	23.00	24.09	23.22	22.34	22.81	24.50	24.03	22.44	21.13	21.05	18.36
47.50°	15.61	15.83	15.89	14.96	15.92	17.68	19.01	18.28	17.96	19.32	21.39	20.41	19.99	19.78	19.16	17.77	15.61
50.00°	13.16	12.89	13.19	12.38	14.05	15.02	16.21	15.80	16.11	17.89	18.93	17.85	17.66	17.70	17.65	15.80	13.16
52.50°	12.36	11.26	11.88	11.22	12.30	13.21	14.74	13.64	15.02	16.34	16.28	15.75	15.42	16.90	16.61	14.40	12.36
55.00°	11.53	11.12	10.75	10.62	10.63	12.72	13.45	12.57	13.56	14.70	14.57	14.68	15.30	15.82	15.37	13.13	11.53
57.50°	10.62	10.93	10.33	10.62	10.04	12.76	12.33	11.64	12.04	13.12	12.98	13.52	15.10	14.24	13.99	12.52	10.62
60.00°	10.07	10.68	9.97	10.80	9.70	12.18	11.92	11.12	11.51	11.58	12.37	12.20	13.31	13.14	13.44	12.02	10.07
62.50°	10.56	10.57	9.76	10.87	11.07	11.40	12.05	10.73	11.07	11.21	11.84	11.59	11.62	12.74	13.45	11.95	10.56
65.00°	10.93	10.56	9.40	10.91	12.03	10.88	11.28	10.61	10.75	11.45	12.16	11.97	10.94	11.90	12.56	11.92	10.93
67.50°	11.03	10.26	8.66	10.38	11.09	10.42	10.00	10.14	10.37	10.66	12.12	11.43	10.24	10.55	11.18	10.48	11.03
70.00°	10.23	9.80	8.21	9.76	10.04	9.68	9.15	9.22	9.59	9.55	10.04	10.06	9.51	9.29	10.01	9.08	10.23
72.50°	8.21	8.63	8.23	8.77	8.76	8.65	8.23	7.38	8.21	7.86	7.54	8.03	8.39	8.08	8.88	8.37	8.21
75.00°	6.96	7.25	7.64	7.70	7.55	6.71	6.00	5.36	6.02	6.12	4.60	5.97	6.89	6.67	6.33	6.85	6.96
77.50°	5.91	5.74	6.58	6.49	6.35	5.81	4.41	4.63	4.19	4.35	3.63	4.28	4.14	4.93	4.40	4.38	5.91
80.00°	4.18	4.12	4.28	5.17	4.30	4.50	3.02	2.97	2.47	2.83	2.36	2.79	2.50	2.82	3.15	3.50	4.18
82.50°	2.68	2.47	2.30	3.23	2.27	2.08	1.48	1.62	1.30	1.21	1.68	1.90	1.51	1.79	1.75	2.30	2.68
85.00°	1.17	1.29	1.50	1.51	1.29	1.30	0.93	1.31	0.89	1.07	1.44	1.16	1.07	1.10	0.97	1.46	1.17
87.50°	0.92	1.03	1.37	1.27	1.24	1.28	1.28	1.21	0.99	0.72	1.21	1.01	1.13	1.10	1.27	1.22	0.92
90.00°	0.89	1.16	1.36	1.22	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	1.00	1.03	0.89
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	1,646	1,646	1,646	1,646	1,608	1,608	1,608	1,608	1,536	1,536	1,536	1,471	1,471	1,471	1,411	1,411	1,382
	1	1,577	1,542	1,510	1,482	1,543	1,512	1,484	1,458	1,456	1,434	1,413	1,405	1,388	1,371	1,358	1,345	1,332
	2	1,509	1,449	1,399	1,357	1,480	1,425	1,380	1,342	1,381	1,344	1,312	1,341	1,311	1,284	1,303	1,279	1,258
	3	1,446	1,367	1,306	1,257	1,419	1,348	1,292	1,247	1,313	1,266	1,228	1,280	1,241	1,209	1,250	1,218	1,195
	4	1,386	1,294	1,227	1,175	1,362	1,279	1,217	1,169	1,250	1,197	1,155	1,223	1,178	1,142	1,198	1,160	1,139
	5	1,329	1,228	1,158	1,106	1,308	1,216	1,150	1,101	1,192	1,135	1,091	1,170	1,121	1,082	1,149	1,107	1,073
	6	1,276	1,168	1,097	1,045	1,257	1,158	1,091	1,041	1,138	1,079	1,035	1,120	1,068	1,028	1,103	1,057	1,021
	7	1,225	1,114	1,042	991	1,208	1,105	1,037	989	1,089	1,028	984	1,073	1,019	979	1,059	1,011	974
	8	1,178	1,064	992	943	1,163	1,057	989	941	1,043	981	938	1,029	974	934	1,017	967	930
	9	1,133	1,018	947	900	1,120	1,012	944	898	1,000	938	895	988	933	893	978	927	890
	10	1,092	976	906	860	1,079	970	904	859	960	899	857	950	894	855	941	890	852

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	97.8 fc	3.8 ft
6.5 ft	70.0 fc	4.4 ft
7.5 ft	52.6 fc	5.1 ft
8.0 ft	46.2 fc	5.5 ft
10.0 ft	29.6 fc	6.8 ft
12.0 ft	20.5 fc	8.2 ft
14.0 ft	15.1 fc	9.6 ft
16.0 ft	11.6 fc	10.9 ft
20.0 ft	7.4 fc	13.7 ft
24.0 ft	5.1 fc	16.4 ft
28.0 ft	3.8 fc	19.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1,013,459	1,013,459	1,013,459
45.00°	8,898	9,110	8,729
55.00°	6,886	6,419	6,352
65.00°	8,858	7,620	9,755
75.00°	9,219	10,111	10,000
85.00°	4,596	5,891	5,059

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	8.8	9.7	9.2	10.1	10.4	9.6	10.6	10.0	10.9	11.2
	3H	11.8	12.7	12.2	13.0	13.4	12.2	13.0	12.6	13.4	13.7
	4H	12.8	13.6	13.2	13.9	14.3	13.1	13.9	13.5	14.2	14.6
	6H	13.5	14.2	13.9	14.6	14.9	13.6	14.3	14.0	14.7	15.1
	8H	13.6	14.3	14.1	14.7	15.1	13.7	14.3	14.1	14.7	15.1
	12H	13.7	14.3	14.1	14.7	15.1	13.7	14.3	14.1	14.7	15.1
4H	2H	9.8	10.5	10.2	10.9	11.3	10.5	11.2	10.9	11.6	12.0
	3H	12.8	13.4	13.2	13.8	14.3	13.1	13.8	13.5	14.2	14.6
	4H	13.9	14.4	14.3	14.9	15.3	14.0	14.6	14.5	15.0	15.5
	6H	14.6	15.1	15.1	15.5	16.0	14.6	15.1	15.1	15.6	16.0
	8H	14.8	15.2	15.3	15.7	16.1	14.7	15.2	15.2	15.6	16.1
	12H	14.8	15.2	15.3	15.7	16.2	14.8	15.1	15.2	15.6	16.1
8H	4H	14.2	14.6	14.7	15.1	15.6	14.2	14.6	14.7	15.1	15.6
	6H	15.0	15.4	15.5	15.9	16.4	14.9	15.2	15.4	15.7	16.2
	8H	15.2	15.6	15.8	16.1	16.6	15.0	15.3	15.6	15.9	16.3
	12H	15.4	15.6	15.9	16.1	16.7	15.1	15.4	15.6	15.9	16.5
12H	4H	14.2	14.6	14.7	15.1	15.6	14.2	14.5	14.7	15.0	15.5
	6H	15.0	15.3	15.6	15.8	16.4	14.9	15.2	15.4	15.6	16.2
	8H	15.3	15.6	15.8	16.1	16.6	15.0	15.3	15.6	15.8	16.4

Corrected UGR values based on total output lumens

SHR = 1.0