

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx 835 020 DLSPGC MW

Test Number

SP-00760

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	1316
Efficacy	87.75 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.38
Two luminaires, plane 90°	0.38
Four luminaires	0.41

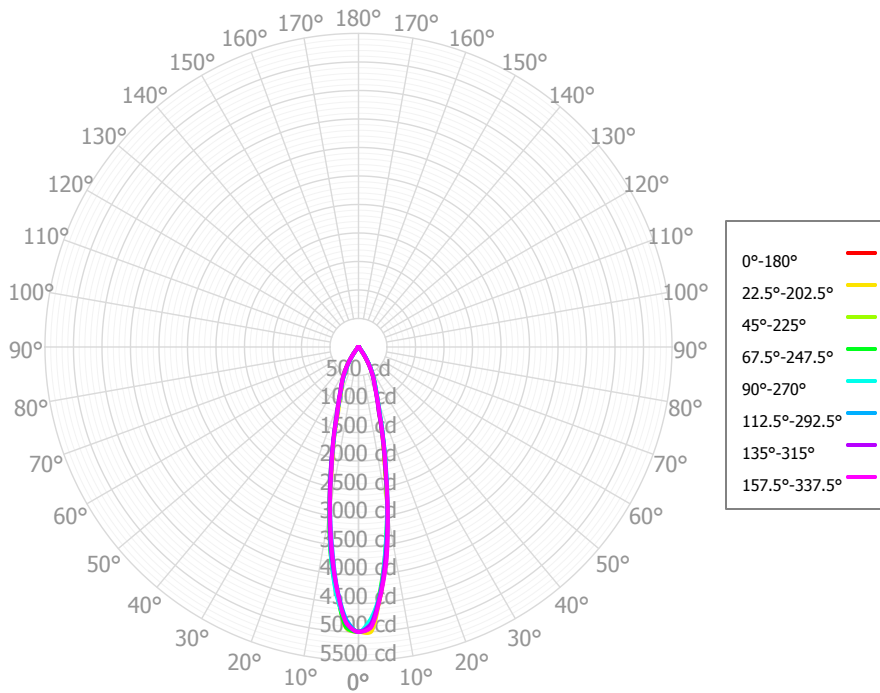
Full Beam Angle

0° - 180°	23°
90° - 270°	23°

IES File Header Contents

Keyword	Value
TEST	SP-00760
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/8/2019
UPDATE	2/27/2019
LUMCAT	IF03RMx xx 835 020 DLSPGC MW
LUMINIARE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 23 degrees
OTHER	Spot optic, Clear glass 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°	369.69	28.09%	90.00° - 100.00°	0.08	0.01%
10.00° - 20.00°	466.42	35.44%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	301.96	22.94%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	123.64	9.39%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	19.32	1.47%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	19.07	1.45%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	10.33	0.78%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	4.08	0.31%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.61	0.12%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,316.12	99.99%	0.00° - 180.00°	1,316.20	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°	4,996.50	4,996.50	4,996.50	4,996.50	4,996.50	4,996.50	4,996.50	4,996.50	4,996.50	4,996.50	4,996.50	4,996.50	4,996.50	4,996.50	4,996.50	4,996.50	4,996.50
2.50°	4,909.56	5,002.87	4,851.28	4,919.14	4,786.70	4,797.29	4,851.97	4,850.26	4,863.21	4,937.02	4,840.83	4,925.74	4,829.45	4,876.14	4,874.19	4,930.76	4,909.56
5.00°	4,393.59	4,375.89	4,380.33	4,311.26	4,352.36	4,266.79	4,284.18	4,285.19	4,316.34	4,294.28	4,353.72	4,336.28	4,388.87	4,361.47	4,363.88	4,393.42	4,393.59
7.50°	3,655.13	3,733.18	3,616.40	3,618.37	3,596.39	3,545.07	3,650.76	3,579.94	3,676.14	3,639.11	3,697.76	3,708.91	3,699.57	3,731.54	3,659.12	3,767.18	3,655.13
10.00°	2,901.96	2,920.87	2,882.57	2,899.18	2,883.16	2,868.30	2,916.23	2,881.81	2,906.56	2,889.69	2,907.32	2,929.81	2,909.59	2,937.78	2,923.52	2,944.14	2,901.96
12.50°	2,141.94	2,147.63	2,173.93	2,177.13	2,236.98	2,211.89	2,263.90	2,185.59	2,234.41	2,152.26	2,246.29	2,211.50	2,259.36	2,245.20	2,175.19	2,214.41	2,141.94
15.00°	1,621.35	1,661.46	1,637.09	1,676.03	1,688.86	1,700.79	1,722.84	1,692.77	1,681.15	1,654.13	1,674.60	1,695.21	1,657.40	1,677.37	1,639.46	1,663.72	1,621.35
17.50°	1,195.21	1,214.15	1,226.73	1,190.89	1,273.76	1,246.30	1,303.64	1,243.10	1,263.67	1,179.28	1,270.74	1,249.97	1,286.33	1,250.85	1,178.79	1,222.12	1,195.21
20.00°	949.87	984.89	962.61	978.14	971.13	992.38	1,027.58	1,005.80	990.15	962.63	968.46	1,000.55	981.07	977.85	932.50	960.43	949.87
22.50°	765.27	774.97	791.65	774.71	802.84	803.69	825.77	804.12	797.67	759.74	787.07	790.13	808.12	778.97	748.79	756.82	765.27
25.00°	632.02	649.62	649.15	652.81	658.87	670.20	699.79	683.24	680.99	663.79	668.53	670.21	666.30	650.13	622.07	637.19	632.02
27.50°	512.97	523.48	522.49	530.89	540.17	551.73	575.51	572.22	568.64	564.65	556.70	550.44	538.79	525.20	508.80	514.61	512.97
30.00°	383.05	394.53	397.13	408.10	422.90	433.12	452.76	448.24	459.80	447.31	447.89	431.01	413.92	403.52	386.38	388.35	383.05
32.50°	250.67	270.35	272.38	286.92	306.94	314.48	333.04	323.17	339.92	329.64	328.55	313.76	296.82	287.35	262.23	268.29	250.67
35.00°	153.98	160.34	172.01	187.43	204.67	209.24	215.67	210.34	212.14	210.55	205.20	200.27	180.78	175.16	165.05	154.98	153.98
37.50°	63.60	73.56	81.66	94.46	113.30	106.32	128.26	98.05	123.27	107.18	123.51	110.76	107.85	100.33	71.71	80.63	63.60
40.00°	39.13	44.44	44.45	59.99	60.78	64.14	61.47	59.93	58.44	61.13	55.04	57.39	39.14	48.85	44.46	43.71	39.13
42.50°	23.26	23.68	25.57	29.43	35.43	29.69	30.87	23.42	30.09	24.94	30.76	25.12	27.33	26.07	24.01	24.40	23.26
45.00°	20.29	20.80	20.66	23.98	24.31	24.07	21.75	19.05	21.14	18.86	18.20	20.38	18.78	18.94	19.53	19.78	20.29
47.50°	18.50	18.89	19.72	19.74	21.80	20.89	19.08	15.16	17.93	14.95	16.35	18.13	17.86	17.48	16.04	17.63	18.50
50.00°	20.24	18.73	21.12	21.38	21.37	22.07	19.76	18.99	17.38	16.59	16.77	18.76	17.16	18.67	17.13	17.28	20.24
52.50°	22.15	19.77	23.07	23.29	22.03	23.46	21.99	22.58	19.32	18.23	19.51	19.59	19.83	19.24	18.34	19.49	22.15
55.00°	23.36	22.72	24.78	26.27	24.36	23.97	24.90	23.80	22.23	19.84	22.64	20.63	22.22	19.56	19.50	23.33	23.36
57.50°	24.47	22.91	26.44	27.37	27.45	24.35	22.89	24.25	21.89	19.99	20.84	19.42	18.56	17.81	20.41	22.30	24.47
60.00°	20.78	19.27	21.35	22.35	22.79	18.81	19.05	19.35	20.46	17.39	18.45	16.25	14.87	15.36	16.04	18.56	20.78
62.50°	16.99	15.12	15.30	17.10	15.20	13.35	14.13	14.58	15.71	13.92	14.59	12.87	10.84	11.36	11.72	13.89	16.99
65.00°	11.27	10.37	11.30	11.20	10.00	9.27	8.87	10.50	10.04	9.07	10.61	9.33	7.25	6.94	8.11	8.76	11.27
67.50°	6.09	6.79	7.49	6.71	5.57	5.65	6.16	7.15	7.58	6.17	8.32	6.32	6.19	5.66	5.03	6.30	6.09
70.00°	4.38	4.32	5.68	5.01	4.61	4.74	4.00	6.07	5.75	5.57	6.39	3.58	5.56	4.97	4.74	4.77	4.38
72.50°	3.37	3.45	4.15	4.13	4.29	3.97	3.75	5.25	5.14	4.57	5.98	4.00	5.77	3.83	4.43	3.46	3.37
75.00°	3.55	3.25	3.56	3.98	3.22	3.43	3.44	4.71	4.50	3.54	4.93	4.49	5.05	3.11	4.09	2.71	3.55
77.50°	3.24	3.10	3.06	3.22	2.76	3.88	3.04	3.47	3.84	3.61	3.47	4.03	3.88	3.05	3.10	3.21	3.24
80.00°	2.67	2.54	2.63	2.50	2.93	3.80	2.80	2.54	4.42	2.84	2.47	2.67	2.47	2.31	2.33	2.25	2.67
82.50°	1.93	1.58	2.28	1.86	1.98	2.53	1.91	1.94	2.60	1.75	1.64	1.41	1.27	1.42	1.80	1.41	1.93
85.00°	1.43	0.82	1.62	1.36	1.36	1.06	1.32	1.22	1.38	0.97	0.99	1.26	1.45	1.04	0.97	1.22	1.43
87.50°	1.25	1.08	1.23	1.47	1.36	0.94	0.93	0.92	0.90	0.79	1.24	1.63	1.23	1.28	1.47	1.25	1.25
90.00°	1.39	1.12	1.11	1.26	0.80	1.18	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.48	1.25	0.69	1.39
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	1,567	1,567	1,567	1,567	1,530	1,530	1,530	1,530	1,462	1,462	1,462	1,400	1,400	1,400	1,343	1,343	1,316
	1	1,505	1,473	1,445	1,419	1,473	1,445	1,420	1,397	1,392	1,372	1,354	1,344	1,328	1,314	1,299	1,287	1,262
	2	1,445	1,391	1,346	1,308	1,418	1,369	1,328	1,293	1,327	1,294	1,265	1,289	1,262	1,239	1,253	1,232	1,208
	3	1,389	1,319	1,264	1,220	1,365	1,301	1,251	1,211	1,268	1,226	1,192	1,237	1,202	1,173	1,208	1,180	1,158
	4	1,337	1,255	1,195	1,149	1,315	1,240	1,185	1,142	1,213	1,166	1,129	1,188	1,148	1,116	1,165	1,131	1,111
	5	1,287	1,197	1,135	1,088	1,268	1,186	1,127	1,084	1,164	1,113	1,074	1,143	1,099	1,065	1,124	1,086	1,068
	6	1,241	1,146	1,082	1,036	1,224	1,136	1,076	1,033	1,118	1,065	1,026	1,101	1,055	1,020	1,085	1,045	1,027
	7	1,198	1,099	1,035	991	1,183	1,091	1,031	988	1,076	1,022	983	1,062	1,014	978	1,048	1,006	974
	8	1,157	1,057	993	950	1,144	1,050	990	948	1,037	983	944	1,025	976	941	1,014	970	937
	9	1,120	1,018	956	913	1,107	1,012	953	912	1,001	947	909	991	942	906	981	936	904
	10	1,084	982	921	880	1,073	977	919	879	968	914	877	959	910	875	950	905	873

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	165.2 fc	2.2 ft
6.5 ft	118.3 fc	2.6 ft
7.5 ft	88.8 fc	3.0 ft
8.0 ft	78.1 fc	3.2 ft
10.0 ft	50.0 fc	4.0 ft
12.0 ft	34.7 fc	4.8 ft
14.0 ft	25.5 fc	5.6 ft
16.0 ft	19.5 fc	6.5 ft
20.0 ft	12.5 fc	8.1 ft
24.0 ft	8.7 fc	9.7 ft
28.0 ft	6.4 fc	11.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1,711,929	1,711,929	1,711,929
45.00°	9,831	10,011	11,781
55.00°	13,954	14,800	14,552
65.00°	9,139	9,158	8,104
75.00°	4,696	4,715	4,266
85.00°	5,618	6,386	5,350

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	13.7	14.6	14.0	14.9	15.2	13.5	14.4	13.8	14.7	15.0
	3H	13.8	14.7	14.2	15.0	15.4	13.6	14.4	14.0	14.8	15.2
	4H	13.9	14.7	14.3	15.0	15.4	13.8	14.5	14.2	14.9	15.3
	6H	14.0	14.7	14.4	15.1	15.5	13.9	14.6	14.4	15.0	15.4
	8H	14.0	14.7	14.5	15.1	15.5	14.0	14.6	14.4	15.0	15.4
	12H	14.1	14.7	14.5	15.1	15.5	14.0	14.6	14.4	15.0	15.4
4H	2H	13.7	14.4	14.1	14.8	15.2	13.5	14.2	13.9	14.6	15.0
	3H	13.9	14.5	14.3	15.0	15.4	13.7	14.4	14.1	14.8	15.2
	4H	14.0	14.6	14.4	15.0	15.4	14.0	14.5	14.4	15.0	15.4
	6H	14.2	14.7	14.7	15.1	15.6	14.3	14.8	14.8	15.2	15.7
	8H	14.3	14.7	14.8	15.2	15.7	14.4	14.8	14.8	15.3	15.7
	12H	14.3	14.7	14.8	15.2	15.7	14.4	14.8	14.9	15.3	15.8
8H	4H	14.0	14.4	14.5	14.9	15.3	14.0	14.4	14.5	14.9	15.4
	6H	14.3	14.6	14.8	15.1	15.6	14.4	14.8	14.9	15.3	15.8
	8H	14.4	14.7	14.9	15.2	15.7	14.6	14.9	15.1	15.4	15.9
	12H	14.5	14.8	15.0	15.3	15.8	14.7	15.0	15.2	15.5	16.0
12H	4H	13.9	14.3	14.4	14.8	15.3	14.0	14.3	14.4	14.8	15.3
	6H	14.3	14.6	14.8	15.0	15.6	14.4	14.7	15.0	15.2	15.8
	8H	14.4	14.7	14.9	15.2	15.8	14.6	14.9	15.1	15.4	16.0

Corrected UGR values based on total output lumens

SHR = 1.0