

Indoor Distribution Test Report

Spectrum Lighting Inc.

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

Luminaire

IF03SMx xx 835 020 DLSPGN MW
Nom 3" Square Infinium recessed downlight

Test Number

SP-00764_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	948
Efficacy	63.22 lm/W

Luminous Dimensions

0° - 180° Size	0.16
90° - 270° Size	0.16
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.39
Two luminaires, plane 90°	0.41
Four luminaires	0.43

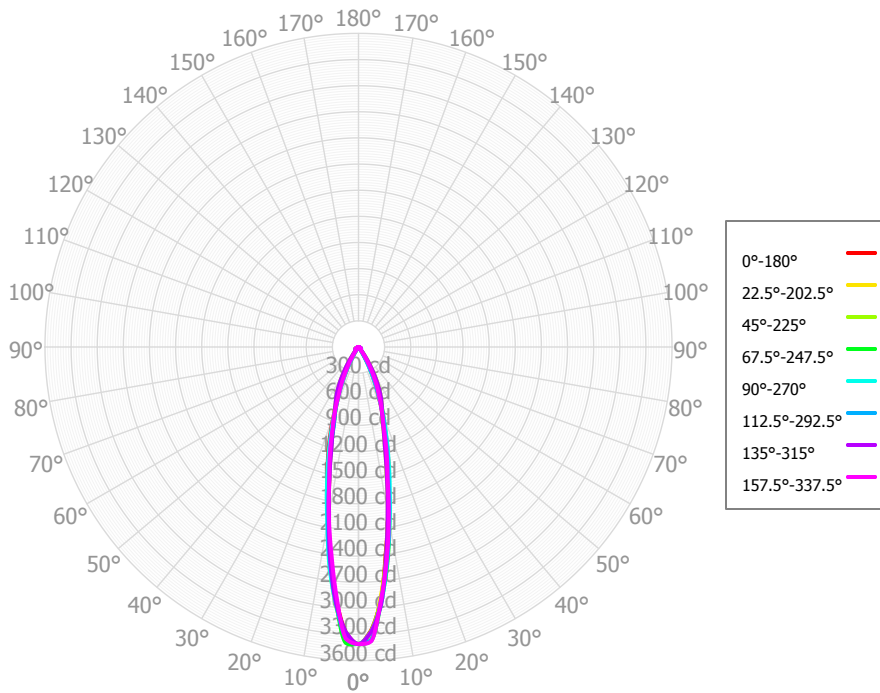
Full Beam Angle

0° - 180°	24°
90° - 270°	24°

IES File Header Contents

Keyword	Value
TEST	SP-00764_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/11/2019
UPDATE	2/28/2019
LUMCAT	IF03SMx xx 835 020 DLSPGN MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 24 degrees
OTHER	Spot optic, Open aperture / no lens
OTHER	Aluminum bezel
LAMPCAT	N/A
LAMP	N/A, CRI: 80, Philips
OTHER	CCT Multiplier: 40K x 1.03
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	80
_LAMPMULT	07L x 0.40, 10L x 0.56, 15L x 0.78
_CCTMULT	40K x 1.03

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	250.91	26.46%	90.00° - 100.00°	0.08	0.01%
10.00° - 20.00°	349.36	36.84%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	221.92	23.40%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	59.78	6.30%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	11.17	1.18%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	24.27	2.56%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	21.58	2.28%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	6.52	0.69%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	2.66	0.28%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	948.18	99.99%	0.00° - 180.00°	948.27	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°	3,410.31	3,410.31	3,410.31	3,410.31	3,410.31	3,410.31	3,410.31	3,410.31	3,410.31	3,410.31	3,410.31	3,410.31	3,410.31	3,410.31	3,410.31	3,410.31	3,410.31
2.50°	3,262.29	3,343.60	3,269.77	3,374.60	3,277.74	3,346.72	3,281.92	3,351.84	3,286.73	3,366.05	3,318.69	3,399.28	3,306.13	3,365.37	3,276.60	3,380.59	3,262.29
5.00°	2,930.08	2,896.71	2,930.84	2,950.53	2,969.23	2,946.24	2,957.74	2,882.92	2,925.81	2,926.48	2,977.80	2,941.03	2,971.05	2,937.34	2,970.93	2,930.95	2,930.08
7.50°	2,394.87	2,448.24	2,415.73	2,522.85	2,485.05	2,488.34	2,484.81	2,388.97	2,486.25	2,434.33	2,523.21	2,482.81	2,546.16	2,499.83	2,423.86	2,477.78	2,394.87
10.00°	1,956.21	1,992.54	1,936.64	2,042.22	2,048.24	2,021.45	1,945.84	1,964.30	1,996.15	1,985.65	1,976.85	2,025.58	2,059.42	2,025.52	1,925.94	1,998.24	1,956.21
12.50°	1,618.68	1,569.17	1,487.76	1,578.93	1,657.87	1,553.47	1,545.03	1,542.45	1,641.05	1,540.86	1,548.83	1,577.75	1,672.41	1,588.64	1,500.31	1,544.96	1,618.68
15.00°	1,312.11	1,267.93	1,163.86	1,283.20	1,329.86	1,240.78	1,196.31	1,267.31	1,362.27	1,253.68	1,205.32	1,260.72	1,345.98	1,271.31	1,163.59	1,242.61	1,312.11
17.50°	1,033.88	992.64	931.44	1,002.71	1,055.25	941.16	975.84	995.21	1,091.03	974.52	970.31	956.72	1,061.20	988.18	942.51	963.76	1,033.88
20.00°	797.23	798.28	784.74	826.65	815.62	778.95	796.72	791.13	823.45	787.89	802.66	774.05	798.29	798.21	782.79	790.76	797.23
22.50°	594.33	620.07	693.44	654.60	602.54	623.07	684.40	591.91	610.14	603.76	681.61	596.92	591.62	619.75	692.76	626.64	594.33
25.00°	427.22	484.87	588.78	503.95	422.55	486.79	589.87	451.43	419.81	469.06	585.98	456.69	410.72	467.88	587.14	494.84	427.22
27.50°	285.46	355.55	476.65	358.12	264.42	351.14	471.51	314.58	280.09	335.61	470.88	320.47	268.45	325.59	465.83	367.24	285.46
30.00°	177.61	239.52	358.33	232.76	157.10	232.88	347.92	208.26	158.52	226.46	346.64	205.25	141.26	202.58	345.41	252.53	177.61
32.50°	90.95	141.54	237.00	123.32	79.31	118.27	240.92	110.79	96.34	122.20	238.92	104.43	82.05	107.11	225.78	151.24	90.95
35.00°	49.62	79.14	147.77	70.02	44.44	73.43	136.77	67.82	51.95	75.23	137.93	63.35	45.56	59.45	135.04	84.64	49.62
37.50°	32.78	34.68	71.99	28.33	31.11	31.59	83.59	30.85	35.27	32.72	82.65	30.21	31.82	27.49	66.52	34.68	32.78
40.00°	22.10	20.72	37.42	20.65	22.32	22.79	37.13	23.21	25.53	25.56	43.07	24.04	24.38	19.14	30.64	21.91	22.10
42.50°	14.32	12.00	17.45	14.40	15.49	14.68	23.55	16.46	19.14	18.79	25.60	18.32	18.68	13.42	16.96	12.64	14.32
45.00°	9.94	10.99	11.62	11.71	11.24	11.76	12.95	13.23	13.42	14.44	14.43	13.92	13.38	11.19	10.60	10.07	9.94
47.50°	6.92	10.68	10.05	10.55	7.96	9.96	12.53	11.52	11.51	11.20	12.31	11.35	10.77	10.53	8.58	8.89	6.92
50.00°	9.18	11.26	14.06	12.69	11.83	14.68	12.65	14.85	10.20	13.16	12.34	13.27	8.66	11.70	10.84	10.03	9.18
52.50°	13.26	16.42	19.45	17.48	17.91	20.75	24.72	20.88	19.49	17.68	22.37	18.66	16.05	16.96	15.33	14.36	13.26
55.00°	22.43	26.79	26.65	27.16	26.59	32.94	36.89	34.31	30.00	32.11	34.29	31.36	24.73	26.44	23.67	23.35	22.43
57.50°	33.06	31.76	34.23	32.75	35.95	41.77	39.31	42.71	37.24	42.41	38.03	38.99	31.20	32.07	33.73	29.77	33.06
60.00°	32.84	31.28	30.67	31.72	34.96	37.97	41.19	39.42	44.23	39.58	40.56	37.39	37.46	34.24	32.09	32.92	32.84
62.50°	30.06	26.74	25.38	27.33	31.81	32.40	31.57	33.26	36.19	34.08	31.30	31.94	32.48	30.68	25.97	30.15	30.06
65.00°	23.52	18.63	18.63	18.21	23.12	21.34	22.00	21.30	27.52	21.44	20.81	20.33	26.82	22.56	19.02	20.71	23.52
67.50°	16.26	12.71	11.71	11.76	13.50	12.35	12.82	12.19	17.88	11.82	12.83	11.97	17.40	14.97	11.81	13.41	16.26
70.00°	12.04	8.32	7.37	8.27	10.47	7.53	5.82	7.01	9.52	7.63	5.81	7.29	9.66	7.71	7.00	8.03	12.04
72.50°	8.72	6.88	4.09	6.42	8.12	5.17	4.22	5.23	6.09	5.33	3.54	5.49	8.68	6.07	3.13	6.53	8.72
75.00°	8.65	6.54	4.37	5.51	7.06	4.58	4.18	5.15	4.99	4.29	2.74	4.99	8.17	5.90	4.22	6.72	8.65
77.50°	10.97	7.66	5.70	6.74	7.60	4.67	4.65	4.79	5.63	3.90	3.25	5.09	7.96	5.98	5.29	8.09	10.97
80.00°	12.52	8.07	6.14	6.09	7.73	5.10	3.86	4.46	6.49	3.49	3.84	5.36	7.51	6.04	5.86	8.33	12.52
82.50°	5.43	5.60	2.56	4.06	2.17	4.04	2.46	2.90	2.87	2.54	2.36	3.36	2.34	4.36	3.56	5.92	5.43
85.00°	0.99	1.83	1.66	2.03	0.87	1.90	1.40	1.37	1.46	1.24	1.60	1.12	1.61	1.61	2.20	2.00	0.99
87.50°	0.93	1.07	1.28	1.03	1.02	1.28	1.17	1.66	1.23	1.39	1.33	1.05	1.08	1.22	1.42	1.46	0.93
90.00°	1.40	1.45	1.22	0.88	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23	1.22	1.42	1.40
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%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1,129	1,129	1,129	1,129	1,103	1,103	1,103	1,103	1,054	1,054	1,054	1,009	1,009	1,009	968	968	968	948
	1	1,081	1,057	1,035	1,016	1,058	1,037	1,017	1,000	999	983	969	963	951	940	931	922	913	904
	2	1,036	994	960	931	1,015	978	947	921	948	923	901	920	900	882	894	878	863	861
	3	994	940	899	866	975	927	889	859	903	871	845	881	854	832	860	838	820	822
	4	954	893	848	813	939	882	841	808	863	827	799	845	814	790	828	802	781	788
	5	918	851	804	769	904	843	799	766	827	789	759	812	779	753	798	769	747	756
	6	885	814	766	732	872	807	762	730	794	754	725	781	747	720	770	739	716	727
	7	854	781	733	700	842	775	730	698	764	724	695	753	718	691	743	712	688	700
	8	825	750	703	671	815	745	701	670	736	696	667	727	691	665	719	686	662	676
	9	798	723	677	645	789	718	674	644	710	670	642	703	666	640	696	663	639	653
	10	772	697	652	622	764	693	650	621	687	647	620	680	644	618	674	641	617	632

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	112.7 fc	2.3 ft
6.5 ft	80.7 fc	2.8 ft
7.5 ft	60.6 fc	3.2 ft
8.0 ft	53.3 fc	3.4 ft
10.0 ft	34.1 fc	4.3 ft
12.0 ft	23.7 fc	5.1 ft
14.0 ft	17.4 fc	6.0 ft
16.0 ft	13.3 fc	6.8 ft
20.0 ft	8.5 fc	8.5 ft
24.0 ft	5.9 fc	10.2 ft
28.0 ft	4.3 fc	11.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1,433,918	1,433,918	1,433,918
45.00°	5,910	6,909	6,686
55.00°	16,441	19,539	19,492
65.00°	23,400	18,537	23,000
75.00°	14,058	7,099	11,465
85.00°	4,782	8,003	4,183

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	18.5	19.5	18.9	19.8	20.2	20.1	21.1	20.5	21.4	21.7
	3H	19.3	20.2	19.7	20.5	20.9	20.4	21.3	20.8	21.6	22.0
	4H	19.6	20.4	20.0	20.7	21.1	20.5	21.3	20.9	21.7	22.1
	6H	20.5	21.3	21.0	21.7	22.1	20.8	21.5	21.2	21.9	22.3
	8H	20.8	21.5	21.3	21.9	22.3	20.8	21.5	21.3	21.9	22.3
	12H	20.9	21.5	21.3	21.9	22.3	20.8	21.5	21.3	21.9	22.3
4H	2H	18.8	19.6	19.2	20.0	20.4	20.3	21.1	20.7	21.4	21.8
	3H	19.6	20.2	20.0	20.6	21.0	20.6	21.3	21.0	21.7	22.1
	4H	19.9	20.5	20.3	20.9	21.4	20.7	21.3	21.2	21.7	22.2
	6H	21.1	21.7	21.6	22.1	22.6	21.1	21.6	21.6	22.1	22.5
	8H	21.5	22.0	22.0	22.5	22.9	21.2	21.7	21.7	22.1	22.6
	12H	21.6	22.0	22.1	22.5	23.0	21.2	21.6	21.7	22.1	22.6
8H	4H	19.9	20.4	20.4	20.8	21.3	20.6	21.1	21.1	21.5	22.0
	6H	21.3	21.7	21.8	22.2	22.7	21.1	21.5	21.6	22.0	22.5
	8H	21.8	22.2	22.4	22.7	23.2	21.3	21.6	21.8	22.1	22.6
	12H	22.0	22.3	22.5	22.8	23.3	21.3	21.6	21.8	22.1	22.7
12H	4H	19.9	20.3	20.4	20.8	21.3	20.6	21.0	21.1	21.5	21.9
	6H	21.3	21.7	21.9	22.1	22.7	21.1	21.4	21.6	21.9	22.4
	8H	21.9	22.2	22.4	22.7	23.3	21.3	21.5	21.8	22.0	22.6

Corrected UGR values based on total output lumens

SHR = 1.0