

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx PC 835 030 DLNFGN MW
Nominal 3" diam round recessed Infinium downlight

Test Number

SP-00759_1_M-30L

Test Date

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

Summary of Results

Power

Input Watts	20.4 W
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Lumen Output

Output Lumens	2080
Efficacy	101.94 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°	0.47
Four luminaires	0.48

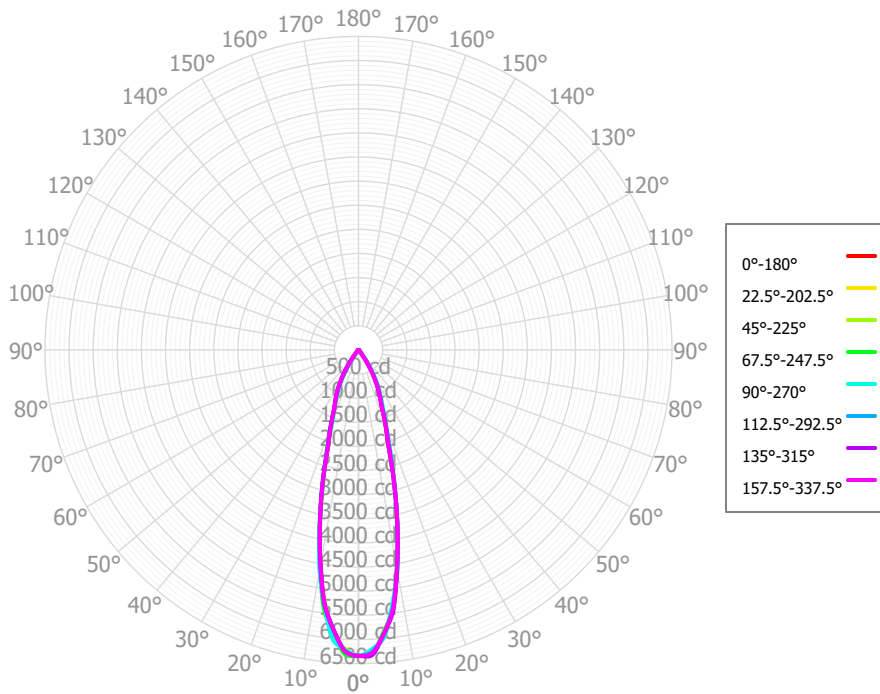
Full Beam Angle

0° - 180°	28°
90° - 270°	28°

IES File Header Contents

Keyword	Value
TEST	SP-00759_1_M-30L
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/8/2019
UPDATE	2/18/2021
LUMCAT	IF03RMx xx PC 835 030 DLNFGN MW
LUMINAIRE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 28 degrees
OTHER	Narrow flood optic, open aperture / no lens
OTHER	Aluminum bezel
LAMPCAT	N/A
LAMP	N/A, CRI: 80, Philips
OTHER	CCT Multipliers: 27K x 0.96, 30K x 0.98, 40K x 1.04
OTHER	Total luminaire wattages is approximate
OTHER	This report prepared by Spectrum Lighting, scaled from 20L
_CRI	80
_CCTMULT	27K x 0.96, 30K x 0.98, 40K x 1.04
_CCTMULTA	27HK x 0.87, 30HK x 0.81
_LAMPMULT	N/A. 30L only

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	527.81	25.38%	90.00° - 100.00°	0.13	0.01%
10.00° - 20.00°	783.34	37.67%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	496.73	23.88%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	195.93	9.42%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	26.29	1.26%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	16.09	0.77%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	19.73	0.95%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	11.02	0.53%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	2.59	0.12%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	2079.54	99.99%	0.00° - 180.00°	2079.68	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°	6341.77	6341.77	6341.77	6341.77	6341.77	6341.77	6341.77	6341.77	6341.77	6341.77	6341.77	6341.77	6341.77	6341.77	6341.77	6341.77	6341.77
2.50°	6301.33	6322.52	6227.76	6315.89	6213.60	6249.68	6257.78	6261.15	6257.08	6300.04	6204.24	6318.14	6229.05	6272.14	6336.01	6291.93	6301.33
5.00°	5906.06	5895.64	5984.86	5891.48	5997.63	5861.03	5837.65	5842.88	5846.38	5861.19	5963.47	5893.23	6041.44	5928.83	5929.71	5928.91	5906.06
7.50°	5431.44	5454.11	5344.84	5444.16	5335.24	5357.74	5353.94	5337.56	5338.77	5388.71	5308.23	5448.76	5353.73	5421.30	5481.54	5439.26	5431.44
10.00°	4595.42	4582.42	4645.92	4585.30	4651.31	4567.61	4530.73	4537.17	4523.27	4547.29	4602.43	4583.66	4655.85	4586.64	4611.05	4591.60	4595.42
12.50°	3699.48	3711.88	3719.92	3728.03	3731.90	3688.37	3705.81	3677.36	3700.35	3706.19	3710.07	3721.33	3733.56	3733.66	3713.33	3731.02	3699.48
15.00°	2862.60	2864.49	2850.53	2888.40	2843.85	2889.61	2873.49	2880.20	2857.65	2867.57	2801.78	2891.64	2831.51	2848.73	2870.19	2839.54	2862.60
17.50°	2033.19	2051.19	2164.47	2097.67	2191.45	2111.40	2128.88	2092.74	2129.88	2088.93	2173.05	2105.71	2185.08	2123.89	2029.92	2084.67	2033.19
20.00°	1623.82	1644.81	1591.45	1678.49	1598.72	1677.90	1692.80	1677.06	1666.43	1657.97	1557.53	1680.91	1579.67	1641.36	1631.76	1613.67	1623.82
22.50°	1250.29	1261.33	1324.77	1291.74	1341.48	1316.71	1318.50	1302.91	1298.47	1272.85	1316.19	1288.11	1316.79	1272.94	1240.95	1239.87	1250.29
25.00°	1048.18	1061.42	1076.88	1094.18	1095.57	1107.48	1128.17	1115.74	1118.72	1100.64	1080.14	1089.30	1061.65	1057.13	1043.30	1040.02	1048.18
27.50°	854.83	858.59	872.18	895.22	900.96	922.94	934.30	942.76	933.47	922.43	893.47	889.34	853.79	845.87	844.73	834.91	854.83
30.00°	630.77	637.90	665.86	689.88	705.93	723.38	731.57	737.30	738.72	721.78	705.87	683.85	648.68	639.94	633.87	621.63	630.77
32.50°	407.21	425.67	456.29	489.34	509.42	521.96	531.31	530.61	537.78	522.41	501.38	483.48	456.97	446.15	427.60	422.22	407.21
35.00°	246.88	253.43	276.33	306.49	326.75	344.19	336.44	341.51	327.57	327.01	303.48	302.93	279.77	264.94	262.51	241.79	246.88
37.50°	92.88	108.60	147.50	152.78	186.81	168.37	180.10	155.91	171.35	165.29	179.24	150.90	159.10	142.68	114.03	120.58	92.88
40.00°	62.53	68.09	61.35	89.55	78.34	103.14	95.76	93.37	85.62	92.65	66.60	89.79	62.03	73.75	72.97	70.12	62.53
42.50°	34.27	35.92	40.07	41.48	51.49	43.26	38.94	34.09	34.44	38.40	42.69	41.70	42.10	37.56	37.27	39.79	34.27
45.00°	29.16	30.45	26.66	32.92	31.28	33.93	26.60	25.60	23.20	25.51	21.91	29.02	26.50	27.25	28.85	30.77	29.16
47.50°	24.37	25.48	23.68	26.12	25.96	25.38	19.43	17.85	17.75	16.57	19.50	19.86	22.72	21.51	21.71	24.29	24.37
50.00°	22.08	21.87	21.53	23.28	21.95	23.47	19.64	17.64	18.14	15.34	17.32	18.81	19.41	18.97	19.75	20.15	22.08
52.50°	19.95	19.42	20.34	20.56	20.43	21.49	19.40	17.36	17.59	14.87	16.18	17.28	17.19	18.41	17.94	18.16	19.95
55.00°	18.80	19.64	19.09	18.08	19.35	18.31	18.59	16.61	16.18	15.68	15.16	14.77	15.26	19.06	16.67	17.96	18.80
57.50°	18.06	20.33	17.77	16.76	18.99	15.68	18.62	16.29	15.46	16.38	14.57	14.13	13.89	18.38	16.55	18.40	18.06
60.00°	19.20	21.96	18.97	17.42	19.70	18.97	19.58	18.40	15.28	16.93	14.83	16.71	14.85	17.00	19.73	19.31	19.20
62.50°	20.36	23.16	22.43	19.15	21.97	22.10	20.33	20.09	16.83	18.02	17.77	18.27	19.86	17.36	22.15	20.91	20.36
65.00°	21.57	23.65	22.52	22.48	22.37	24.02	20.90	19.94	19.57	19.80	19.49	18.27	21.95	18.52	22.73	22.96	21.57
67.50°	21.36	21.85	19.96	21.94	20.38	24.61	20.19	19.52	20.42	19.91	18.37	17.55	20.05	17.80	21.91	20.34	21.36
70.00°	17.54	17.10	16.92	16.89	17.24	19.61	18.52	18.33	20.29	18.41	15.88	16.09	16.80	16.47	18.72	15.55	17.54
72.50°	13.01	12.82	13.62	12.04	13.06	16.05	15.68	15.96	15.79	14.74	11.85	13.22	12.68	11.95	13.39	11.47	13.01
75.00°	7.78	8.84	9.93	7.31	10.31	14.48	12.41	12.34	11.14	10.44	9.36	9.86	9.44	8.25	6.65	7.98	7.78
77.50°	5.55	6.13	6.98	6.66	8.13	11.26	8.70	9.73	7.93	7.29	7.19	6.47	6.67	6.44	5.17	5.76	5.55
80.00°	3.72	3.46	5.47	5.22	6.50	7.74	6.30	6.59	6.11	5.13	4.99	4.55	4.09	3.92	3.50	3.70	3.72
82.50°	2.38	1.90	3.49	3.42	3.90	4.31	3.43	3.33	3.12	3.10	2.64	2.82	1.76	2.45	2.00	2.99	2.38
85.00°	2.07	2.00	1.81	2.41	2.49	1.59	1.58	1.90	1.79	1.84	1.15	1.36	1.75	1.73	1.48	2.51	2.07
87.50°	1.44	2.09	1.38	1.86	1.97	1.78	1.72	1.61	1.72	1.60	1.60	1.64	1.77	1.87	1.81	1.91	1.44
90.00°	2.13	1.55	1.73	1.74	1.61	2.56	1.63	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00	2.13
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	2476	2476	2476	2476	2418	2418	2418	2418	2311	2311	2311	2212	2212	2212	2122	2122	2080
	1	2376	2326	2280	2239	2326	2281	2240	2203	2198	2165	2136	2121	2096	2073	2050	2031	1991
	2	2281	2194	2122	2061	2237	2159	2093	2038	2093	2040	1994	2032	1989	1952	1976	1942	1904
	3	2191	2078	1991	1921	2152	2050	1970	1906	1998	1931	1876	1949	1893	1847	1903	1858	1823
	4	2107	1976	1880	1807	2073	1953	1865	1796	1911	1835	1776	1871	1807	1755	1834	1780	1748
	5	2028	1885	1784	1710	1998	1866	1773	1703	1831	1750	1688	1799	1729	1674	1768	1708	1678
	6	1954	1802	1700	1627	1927	1787	1691	1621	1758	1674	1611	1731	1657	1601	1705	1641	1613
	7	1885	1727	1625	1553	1860	1714	1618	1549	1690	1604	1542	1667	1591	1534	1646	1578	1553
	8	1819	1658	1557	1487	1798	1648	1551	1485	1627	1541	1479	1608	1530	1473	1590	1520	1496
	9	1758	1595	1496	1428	1738	1586	1491	1426	1569	1482	1422	1552	1474	1417	1537	1465	1444
	10	1701	1537	1439	1374	1683	1529	1436	1373	1514	1428	1369	1500	1421	1366	1486	1415	1395

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	209.6 fc	2.8 ft
6.5 ft	150.1 fc	3.3 ft
7.5 ft	112.7 fc	3.8 ft
8.0 ft	99.1 fc	4.0 ft
10.0 ft	63.4 fc	5.0 ft
12.0 ft	44.0 fc	6.0 ft
14.0 ft	32.4 fc	7.0 ft
16.0 ft	24.8 fc	8.0 ft
20.0 ft	15.9 fc	10.0 ft
24.0 ft	11.0 fc	12.0 ft
28.0 ft	8.1 fc	14.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	2172855	2172855	2172855
45.00°	14130	12918	15157
55.00°	11233	11405	11560
65.00°	17487	18260	18138
75.00°	10302	13152	13649
85.00°	8140	7130	9789

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	11.0	11.9	11.3	12.2	12.5	9.4	10.4	9.8	10.7	11.0
	3H	14.5	15.3	14.9	15.7	16.0	14.0	14.9	14.4	15.2	15.6
	4H	15.0	15.8	15.4	16.1	16.5	14.9	15.7	15.3	16.0	16.4
	6H	15.2	15.8	15.6	16.2	16.6	15.3	16.0	15.8	16.4	16.8
	8H	15.2	15.8	15.6	16.2	16.6	15.4	16.1	15.9	16.5	16.9
	12H	15.2	15.8	15.6	16.2	16.6	15.4	16.1	15.9	16.4	16.9
4H	2H	12.4	13.1	12.8	13.5	13.9	11.1	11.9	11.6	12.3	12.7
	3H	15.5	16.1	15.9	16.5	16.9	15.2	15.8	15.6	16.2	16.6
	4H	16.0	16.6	16.4	17.0	17.4	16.2	16.7	16.6	17.1	17.6
	6H	16.2	16.7	16.7	17.1	17.6	16.7	17.2	17.2	17.6	18.1
	8H	16.2	16.7	16.7	17.1	17.6	16.8	17.2	17.3	17.7	18.1
	12H	16.2	16.6	16.7	17.1	17.6	16.8	17.2	17.3	17.7	18.2
8H	4H	16.1	16.6	16.6	17.0	17.5	16.4	16.9	16.9	17.3	17.8
	6H	16.4	16.7	16.9	17.2	17.7	17.1	17.4	17.6	17.9	18.4
	8H	16.4	16.8	17.0	17.3	17.8	17.2	17.5	17.7	18.0	18.5
	12H	16.6	16.8	17.1	17.3	17.9	17.3	17.6	17.8	18.0	18.6
12H	4H	16.1	16.5	16.6	17.0	17.4	16.4	16.8	16.9	17.3	17.8
	6H	16.4	16.7	16.9	17.2	17.7	17.1	17.4	17.6	17.9	18.4
	8H	16.5	16.7	17.0	17.2	17.8	17.2	17.5	17.8	18.0	18.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0