

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-00759_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	1959
Efficacy	96.01 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.46
Two luminaires, plane 90°	0.47
Four luminaires	0.48

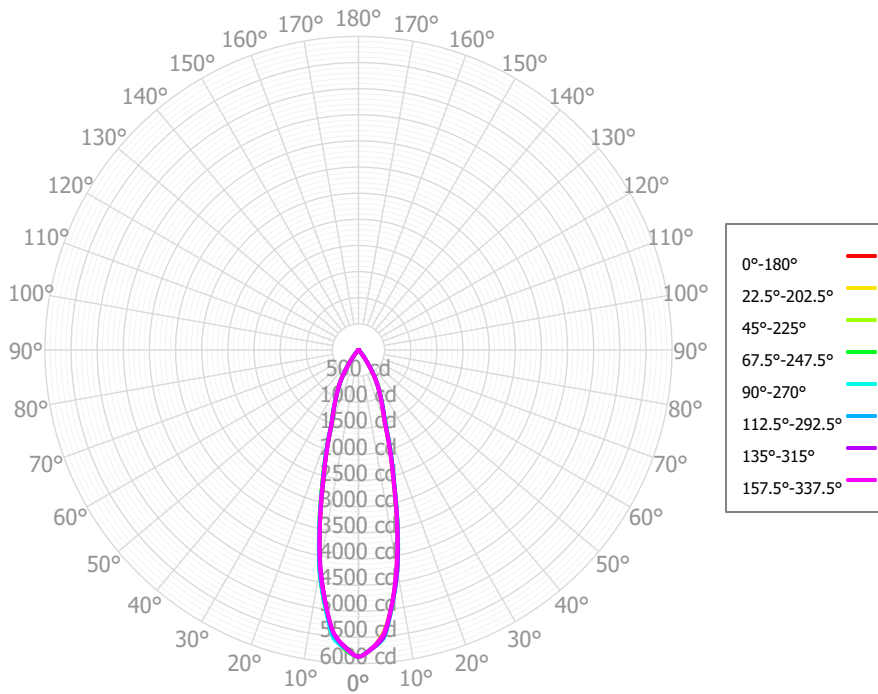
Full Beam Angle

0° - 180°	28°
90° - 270°	28°

IES File Header Contents

Keyword	Value
TEST	SP-00759_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 DLNFGC MW
LUMINAIRE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 28 degrees
OTHER	Narrow flood optic, Clear glass lens
OTHER	Aluminum bezel contains lens
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°	484.89	24.76%	90.00° - 100.00°	0.10	0.01%
10.00° - 20.00°	728.67	37.20%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	470.60	24.03%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	205.46	10.49%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	33.92	1.73%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	16.48	0.84%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	11.01	0.56%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	5.46	0.28%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.97	0.10%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1958.47	99.99%	0.00° - 180.00°	1958.56	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°	5867.21	5867.21	5867.21	5867.21	5867.21	5867.21	5867.21	5867.21	5867.21	5867.21	5867.21	5867.21	5867.21	5867.21	5867.21	5867.21	5867.21
2.50°	5715.64	5723.92	5723.79	5726.88	5724.19	5719.22	5693.28	5709.67	5696.82	5738.96	5711.67	5743.12	5722.18	5718.71	5732.38	5718.95	5715.64
5.00°	5520.17	5434.04	5533.02	5467.20	5538.50	5477.36	5448.55	5434.28	5486.32	5440.18	5512.16	5479.63	5533.42	5483.30	5517.47	5457.97	5520.17
7.50°	4898.39	4922.68	4919.16	4932.87	4932.97	4901.82	4864.37	4875.50	4859.80	4907.73	4890.87	4932.30	4920.35	4911.14	4918.46	4906.59	4898.39
10.00°	4251.48	4193.46	4282.84	4231.89	4291.02	4272.33	4197.73	4232.54	4229.75	4243.11	4266.97	4290.07	4297.99	4225.91	4280.71	4193.12	4251.48
12.50°	3421.44	3423.99	3454.05	3459.02	3469.89	3444.53	3416.94	3411.28	3408.87	3422.33	3443.32	3463.72	3465.58	3440.59	3436.40	3411.53	3421.44
15.00°	2578.01	2612.91	2612.34	2640.17	2630.54	2660.12	2606.18	2649.74	2589.45	2673.28	2619.77	2699.51	2640.71	2619.38	2627.39	2589.83	2578.01
17.50°	2002.01	1971.86	2031.54	2019.81	2049.03	2047.77	2026.59	2022.23	2025.57	2013.35	2047.98	2062.83	2060.97	2024.12	2025.76	1975.08	2002.01
20.00°	1449.47	1515.66	1472.04	1533.24	1497.71	1504.08	1512.38	1505.55	1461.69	1519.60	1476.19	1542.12	1487.24	1515.14	1472.59	1488.92	1449.47
22.50°	1212.56	1189.68	1226.93	1217.19	1239.37	1255.25	1237.99	1252.84	1242.82	1243.10	1248.13	1273.44	1254.60	1222.98	1235.41	1186.53	1212.56
25.00°	1008.07	1012.56	1012.13	1022.18	1019.99	1020.25	1036.42	1025.44	1026.32	1018.08	1024.28	1034.26	1022.21	1018.91	1006.12	1004.47	1008.07
27.50°	831.12	830.29	831.60	836.45	841.20	849.80	852.85	862.09	864.61	863.89	857.02	863.03	841.99	833.29	834.40	823.97	831.12
30.00°	657.41	641.84	654.90	657.66	668.47	677.86	675.15	691.35	703.98	695.19	691.19	687.43	661.77	655.65	661.59	644.54	657.41
32.50°	467.89	459.21	470.38	481.91	493.60	498.31	494.18	500.44	507.93	505.50	504.98	501.13	486.21	482.00	479.54	466.21	467.89
35.00°	276.26	283.93	284.86	308.56	318.37	327.04	312.08	324.08	310.71	334.79	317.98	330.50	310.68	310.19	303.66	288.67	276.26
37.50°	170.53	155.21	175.93	184.78	200.54	202.18	191.64	190.13	192.66	193.06	203.57	200.61	195.60	190.44	188.12	169.18	170.53
40.00°	77.71	88.43	77.99	101.98	93.24	90.77	94.05	82.32	78.28	93.08	92.94	96.69	81.75	95.91	80.11	94.07	77.71
42.50°	51.72	45.39	50.52	54.92	59.05	62.82	54.98	55.94	54.47	60.26	62.35	64.79	55.71	53.23	58.50	52.43	51.72
45.00°	37.14	35.58	34.32	38.93	39.55	37.28	38.99	34.51	36.12	37.35	37.05	39.22	32.64	37.14	37.82	37.70	37.14
47.50°	29.93	28.34	27.83	29.65	31.23	28.79	30.29	29.58	28.94	31.24	29.91	32.41	28.73	28.70	30.03	28.64	29.93
50.00°	24.10	24.89	23.10	26.50	25.36	21.17	24.64	24.85	22.59	25.71	24.24	26.13	25.74	24.41	22.50	24.36	24.10
52.50°	21.82	21.77	20.37	22.43	20.93	20.52	21.16	20.80	20.31	21.22	21.58	21.56	21.22	20.68	19.25	20.51	21.82
55.00°	20.27	19.18	18.03	17.46	16.84	19.60	18.65	17.17	18.40	17.60	19.21	17.53	16.60	17.26	16.07	17.04	20.27
57.50°	18.36	17.04	16.23	15.01	15.74	16.09	16.59	15.15	16.32	15.63	16.44	15.35	14.51	14.81	14.48	14.77	18.36
60.00°	16.38	15.64	14.54	15.10	15.42	12.88	14.73	13.50	14.23	13.85	13.63	13.34	12.60	12.94	12.91	13.61	16.38
62.50°	13.87	14.13	12.69	14.53	13.78	12.76	12.83	13.38	13.12	12.45	13.51	11.96	10.86	11.52	12.05	12.13	13.87
65.00°	11.23	12.44	10.81	13.26	11.76	12.52	10.90	12.80	12.12	11.04	13.72	10.49	9.15	10.39	11.16	10.35	11.23
67.50°	9.32	10.10	9.05	11.62	9.56	10.64	9.78	10.12	10.20	9.59	10.07	8.62	7.35	8.88	8.52	8.51	9.32
70.00°	7.60	6.57	7.32	9.59	7.32	8.72	9.10	7.64	8.16	8.07	5.87	6.86	5.55	7.12	5.89	6.62	7.60
72.50°	6.30	4.33	5.57	7.67	6.45	6.40	7.73	6.15	6.74	6.36	4.93	5.61	5.73	5.83	5.35	5.31	6.30
75.00°	5.12	4.57	3.82	5.88	6.03	4.23	5.96	4.90	5.42	4.93	4.50	4.45	6.16	4.85	4.80	4.63	5.12
77.50°	4.61	4.27	3.69	4.54	4.81	3.98	4.76	4.71	4.55	4.12	4.16	3.67	4.61	4.20	3.95	3.57	4.61
80.00°	4.29	3.08	3.98	3.67	3.33	3.56	3.80	4.02	3.69	3.32	3.68	2.81	3.04	3.76	3.10	2.13	4.29
82.50°	2.72	1.89	2.49	2.50	2.24	2.62	2.09	2.36	2.49	2.53	2.44	1.82	2.00	2.30	2.20	1.65	2.72
85.00°	1.58	1.04	1.27	1.49	1.48	1.80	1.30	1.51	1.79	1.43	1.56	1.37	2.16	1.64	1.67	1.51	1.58
87.50°	1.22	1.04	0.82	1.19	1.24	1.65	1.30	1.45	1.61	1.22	1.48	1.54	1.20	2.06	1.23	1.36	1.22
90.00°	1.01	1.13	2.01	1.48	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.59	1.63	1.56	1.01
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	2332	2332	2332	2332	2277	2277	2277	2277	2176	2176	2176	2084	2084	2084	1998	1998	1958
	1	2239	2191	2149	2110	2191	2149	2111	2077	2071	2041	2013	1999	1975	1953	1932	1914	1876
	2	2149	2067	2000	1943	2107	2034	1973	1921	1972	1922	1879	1915	1875	1840	1862	1830	1795
	3	2064	1958	1875	1810	2027	1931	1856	1795	1882	1819	1767	1836	1784	1740	1793	1750	1718
	4	1984	1860	1770	1700	1951	1839	1755	1691	1799	1727	1671	1761	1701	1652	1727	1676	1645
	5	1908	1773	1678	1608	1879	1755	1667	1601	1722	1646	1587	1691	1625	1574	1663	1606	1578
	6	1837	1693	1597	1527	1812	1679	1588	1522	1652	1572	1512	1626	1556	1503	1602	1541	1515
	7	1771	1621	1524	1456	1748	1609	1518	1453	1586	1505	1446	1565	1492	1438	1545	1480	1457
	8	1708	1555	1459	1393	1687	1545	1454	1390	1526	1444	1385	1508	1434	1380	1490	1424	1402
	9	1650	1495	1400	1336	1631	1486	1396	1334	1470	1387	1330	1454	1379	1326	1439	1372	1351
	10	1594	1439	1346	1284	1577	1432	1343	1283	1417	1336	1279	1404	1329	1276	1391	1323	1304

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	194.0 fc	2.7 ft
6.5 ft	138.9 fc	3.2 ft
7.5 ft	104.3 fc	3.7 ft
8.0 ft	91.7 fc	4.0 ft
10.0 ft	58.7 fc	5.0 ft
12.0 ft	40.7 fc	6.0 ft
14.0 ft	29.9 fc	7.0 ft
16.0 ft	22.9 fc	8.0 ft
20.0 ft	14.7 fc	10.0 ft
24.0 ft	10.2 fc	12.0 ft
28.0 ft	7.5 fc	14.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	2010258	2010258	2010258
45.00°	17997	16629	19165
55.00°	12105	10772	10057
65.00°	9106	8761	9531
75.00°	6772	5054	7988
85.00°	6196	4992	5828

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	10.0	10.9	10.4	11.2	11.6	9.6	10.6	10.0	10.9	11.2
	3H	11.2	12.0	11.6	12.4	12.7	11.0	11.8	11.3	12.1	12.5
	4H	11.6	12.4	12.0	12.7	13.1	11.5	12.2	11.9	12.6	13.0
	6H	12.1	12.7	12.5	13.1	13.5	11.9	12.6	12.3	12.9	13.3
	8H	12.2	12.9	12.6	13.2	13.7	12.0	12.6	12.4	13.0	13.4
	12H	12.3	12.9	12.7	13.3	13.7	12.1	12.7	12.5	13.1	13.5
4H	2H	10.4	11.1	10.8	11.5	11.9	10.3	11.0	10.7	11.4	11.8
	3H	11.7	12.3	12.1	12.7	13.1	11.7	12.3	12.1	12.7	13.1
	4H	12.1	12.7	12.6	13.1	13.6	12.2	12.8	12.7	13.2	13.6
	6H	12.7	13.2	13.2	13.6	14.1	12.7	13.2	13.2	13.6	14.1
	8H	12.9	13.3	13.4	13.8	14.2	12.8	13.3	13.3	13.7	14.2
	12H	13.0	13.4	13.5	13.9	14.3	13.0	13.3	13.5	13.8	14.3
8H	4H	12.3	12.7	12.7	13.1	13.6	12.4	12.8	12.9	13.3	13.7
	6H	12.9	13.2	13.4	13.8	14.2	13.0	13.3	13.5	13.9	14.3
	8H	13.1	13.4	13.7	14.0	14.5	13.2	13.5	13.8	14.0	14.5
	12H	13.3	13.6	13.9	14.1	14.7	13.4	13.7	14.0	14.2	14.8
12H	4H	12.3	12.6	12.7	13.1	13.6	12.4	12.7	12.9	13.2	13.7
	6H	12.9	13.2	13.5	13.7	14.3	13.0	13.3	13.6	13.8	14.4
	8H	13.2	13.5	13.7	14.0	14.6	13.3	13.6	13.8	14.1	14.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0