Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

IF03RMx xx PC 835 030 DLWFGP MW

Nominal 3" diam round recessed Infinium downlight

Test Number

SP-00761_2_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

Lumen Output

Output Lumens	1842
Efficacy	90.32 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.95
Two luminaires, plane 90°	0.95
Four luminaires	0.89

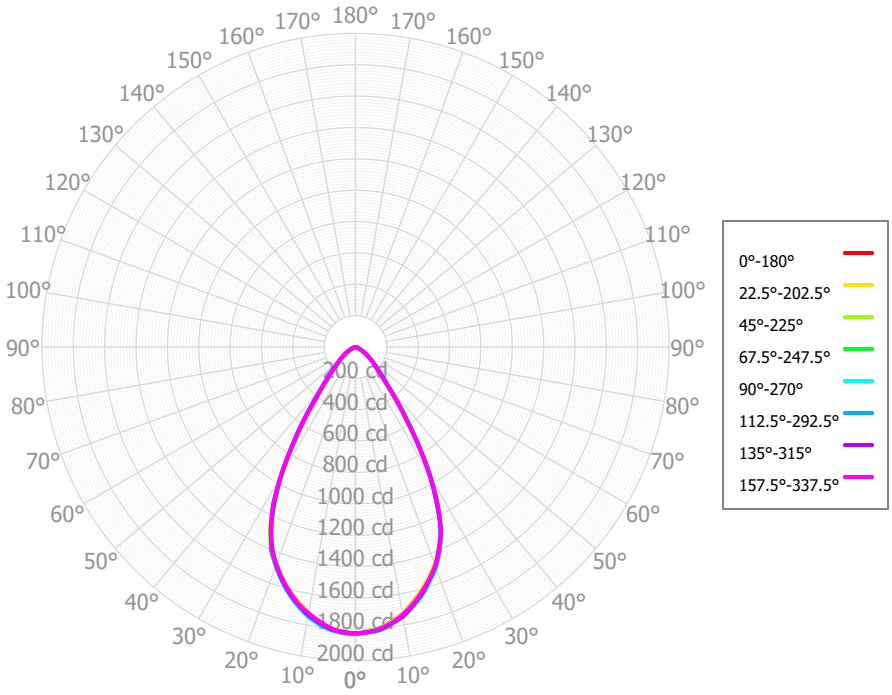
Full Beam Angle

0° - 180°	61°
90° - 270°	61°

IES File Header Contents

Keyword	Value
TEST	SP-00761_2_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 DLWFGP MW
LUMINAIRE	Nominal 3" diam round recessed Infinium downlight
OTHER	Beam Angle: 61 degrees
OTHER	Wide flood optic, Solite 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°	172.40	9.36%	90.00° - 100.00°	0.11	0.01%
10.00° - 20.00°	454.27	24.66%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	572.66	31.08%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	366.69	19.90%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	157.37	8.54%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	77.98	4.23%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	29.88	1.62%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	8.85	0.48%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	2.27	0.12%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1842.37	99.99%	0.00° - 180.00°	1842.48	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°	1827.35	1827.35	1827.35	1827.35	1827.35	1827.35	1827.35	1827.35	1827.35	1827.35	1827.35	1827.35	1827.35	1827.35	1827.35	1827.35	1827.35
2.50°	1815.58	1815.93	1816.08	1821.08	1823.03	1822.98	1819.46	1824.12	1817.10	1816.87	1817.37	1827.14	1823.63	1821.43	1819.45	1821.69	1815.58
5.00°	1799.50	1798.94	1800.38	1801.37	1814.28	1808.07	1806.48	1799.88	1801.85	1798.66	1802.84	1807.47	1813.44	1808.92	1808.07	1803.46	1799.50
7.50°	1765.57	1767.99	1769.46	1776.52	1779.86	1781.03	1772.15	1766.74	1764.49	1767.94	1772.95	1782.64	1782.42	1781.32	1776.61	1775.94	1765.57
10.00°	1730.07	1727.64	1735.61	1739.51	1744.23	1741.55	1734.42	1724.84	1725.14	1725.75	1735.36	1737.06	1746.85	1744.67	1744.14	1733.53	1730.07
12.50°	1672.65	1673.13	1679.19	1694.04	1693.49	1690.65	1681.99	1680.20	1671.83	1674.15	1680.46	1687.80	1691.79	1692.28	1688.52	1683.03	1672.65
15.00°	1614.26	1610.96	1619.90	1632.76	1641.64	1630.32	1625.56	1618.13	1615.88	1613.25	1620.23	1625.35	1632.83	1632.25	1631.95	1622.07	1614.26
17.50°	1548.68	1544.29	1552.65	1567.88	1571.53	1562.85	1556.10	1551.89	1547.57	1546.07	1550.46	1561.43	1561.34	1563.29	1560.28	1557.11	1548.68
20.00°	1479.23	1475.66	1484.84	1497.43	1498.33	1483.75	1480.42	1475.58	1475.29	1471.26	1476.13	1484.67	1483.19	1490.92	1486.20	1487.94	1479.23
22.50°	1390.82	1385.30	1393.17	1405.11	1398.86	1397.54	1389.19	1397.61	1389.51	1392.27	1395.15	1407.16	1388.56	1391.73	1391.87	1397.79	1390.82
25.00°	1287.36	1287.47	1298.62	1285.47	1289.23	1271.86	1276.57	1271.04	1284.46	1273.21	1283.68	1275.29	1273.93	1284.62	1286.75	1289.12	1287.36
27.50°	1128.52	1127.50	1131.22	1134.02	1123.33	1126.62	1121.29	1139.65	1127.70	1136.69	1135.70	1140.48	1119.77	1121.92	1122.69	1135.11	1128.52
30.00°	956.94	951.58	960.97	949.77	951.94	949.13	951.85	949.78	956.10	954.80	960.73	950.83	951.56	947.01	952.31	948.62	956.94
32.50°	750.04	754.02	758.60	763.02	759.16	758.88	759.50	757.18	753.39	757.34	759.42	762.45	760.79	760.96	757.59	758.08	750.04
35.00°	562.74	552.33	564.59	574.14	579.77	592.24	585.33	584.13	570.49	580.76	582.43	586.68	588.27	573.27	576.20	565.20	562.74
37.50°	417.80	418.64	425.04	429.53	440.12	432.73	434.98	415.69	420.69	409.67	425.27	422.42	439.45	443.45	434.70	425.99	417.80
40.00°	302.82	293.24	300.12	315.47	321.97	331.20	322.53	324.22	307.06	317.34	318.24	326.97	325.82	318.74	316.27	312.25	302.82
42.50°	240.96	238.18	241.50	243.24	254.06	242.76	250.99	237.91	243.66	239.62	244.36	241.61	250.45	256.66	251.22	245.07	240.96
45.00°	191.57	187.38	189.24	194.60	197.64	198.32	197.28	197.49	194.01	198.12	195.73	197.99	196.22	197.22	197.25	195.14	191.57
47.50°	159.96	157.54	158.49	159.51	162.43	160.81	159.45	159.37	159.89	161.04	160.50	158.63	160.71	163.90	163.58	162.36	159.96
50.00°	131.33	128.27	129.40	130.59	131.62	132.84	130.63	134.04	131.34	133.62	131.87	132.88	131.56	131.12	132.71	134.49	131.33
52.50°	106.15	106.27	104.55	107.34	107.43	105.74	108.34	109.52	107.92	106.82	106.09	108.43	106.97	106.10	106.09	109.94	106.15
55.00°	84.49	84.58	82.45	86.09	85.60	86.78	87.53	88.14	87.33	86.99	86.12	87.15	85.25	82.04	83.27	86.09	84.49
57.50°	66.26	65.97	65.98	68.13	66.70	68.17	67.58	68.36	68.90	67.40	68.09	67.87	65.23	65.47	65.15	67.51	66.26
60.00°	50.92	48.65	50.26	51.07	51.62	54.07	52.36	53.45	53.46	52.26	54.15	52.43	50.92	49.73	50.01	49.67	50.92
62.50°	37.85	39.66	35.81	39.05	40.41	40.32	39.40	39.87	39.88	37.67	41.22	38.83	39.33	38.17	37.87	37.43	37.85
65.00°	28.17	30.40	25.30	28.02	30.63	31.78	29.30	29.42	29.17	28.86	29.96	28.16	30.83	27.79	27.38	25.65	28.17
67.50°	20.67	19.98	20.06	20.26	22.04	23.69	20.23	21.25	19.81	20.77	18.98	20.13	23.40	21.57	18.27	18.97	20.67
70.00°	15.36	12.27	15.64	13.17	15.65	17.77	14.04	16.43	13.92	15.43	14.13	14.82	16.58	15.85	13.22	12.97	15.36
72.50°	10.90	9.81	11.92	10.69	10.43	13.05	9.01	11.62	9.25	11.21	9.87	11.22	10.68	10.96	10.19	10.30	10.90
75.00°	8.12	7.86	9.10	7.99	8.00	9.87	7.18	7.17	7.33	8.16	6.85	8.13	7.57	8.10	7.46	7.55	8.12
77.50°	5.80	6.05	6.57	4.95	5.98	6.69	5.31	6.04	5.24	5.85	5.98	4.75	5.85	6.12	5.23	4.73	5.80
80.00°	4.06	3.50	4.29	3.49	4.24	4.22	3.66	3.89	3.54	3.64	4.40	4.14	4.16	4.16	3.68	3.49	4.06
82.50°	2.25	2.53	2.73	2.50	2.95	2.63	2.48	2.26	2.51	2.24	2.40	2.70	2.39	2.44	2.43	2.64	2.25
85.00°	1.83	1.78	1.85	2.21	1.93	1.88	1.79	1.79	1.49	2.01	1.72	1.71	1.77	1.85	2.28	1.63	1.83
87.50°	1.47	1.46	1.21	1.43	1.91	1.81	2.32	1.42	1.59	1.39	1.52	1.69	1.99	1.59	1.55	1.50	1.47
90.00°	1.34	1.44	1.95	1.48	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.76	1.81	1.12	1.34
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.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
RCR	0	2193	2193	2193	2193	2142	2142	2142	2142	2047	2047	2047	1960	1960	1960	1880	1880	1880	1842
	1	2082	2027	1977	1933	2036	1987	1942	1902	1912	1876	1843	1843	1814	1788	1779	1757	1736	1722
	2	1968	1871	1790	1723	1926	1838	1765	1703	1778	1718	1665	1723	1673	1630	1671	1631	1595	1598
	3	1859	1731	1632	1553	1821	1704	1613	1540	1655	1578	1515	1610	1545	1491	1567	1514	1468	1484
	4	1756	1606	1496	1412	1721	1584	1482	1403	1544	1456	1386	1506	1431	1370	1471	1407	1354	1380
	5	1659	1494	1379	1293	1628	1476	1368	1287	1442	1348	1275	1411	1328	1264	1381	1310	1253	1286
	6	1570	1394	1276	1192	1542	1379	1268	1187	1351	1252	1179	1324	1237	1171	1299	1223	1163	1201
	7	1487	1305	1186	1104	1461	1292	1180	1101	1268	1167	1094	1245	1155	1088	1224	1144	1082	1124
	8	1410	1224	1107	1027	1387	1213	1102	1024	1193	1092	1020	1173	1082	1015	1155	1072	1011	1055
	9	1340	1152	1036	958	1318	1142	1032	957	1124	1024	953	1107	1016	950	1091	1008	946	992
	10	1274	1086	973	898	1255	1078	969	897	1062	963	894	1047	956	891	1034	949	889	935

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	60.4 fc	6.5 ft
6.5 ft	43.3 fc	7.7 ft
7.5 ft	32.5 fc	8.8 ft
8.0 ft	28.6 fc	9.4 ft
10.0 ft	18.3 fc	11.8 ft
12.0 ft	12.7 fc	14.1 ft
14.0 ft	9.3 fc	16.5 ft
16.0 ft	7.1 fc	18.9 ft
20.0 ft	4.6 fc	23.6 ft
24.0 ft	3.2 fc	28.3 ft
28.0 ft	2.3 fc	33.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	626096	626096	626096
45.00°	92822	91697	95765
55.00°	50473	49250	51135
65.00°	22834	20511	24835
75.00°	10747	12046	10584
85.00°	7213	7258	7582

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	19.7	20.8	20.0	21.1	21.4	19.8	20.9	20.2	21.2	21.5
	3H	19.9	20.9	20.3	21.2	21.6	20.2	21.1	20.5	21.5	21.8
	4H	20.0	20.9	20.4	21.2	21.6	20.2	21.1	20.6	21.4	21.8
	6H	19.9	20.8	20.4	21.1	21.5	20.2	21.0	20.6	21.4	21.8
	8H	19.9	20.7	20.4	21.1	21.5	20.1	20.9	20.6	21.3	21.7
	12H	19.9	20.6	20.3	21.0	21.4	20.1	20.8	20.5	21.2	21.7
4H	2H	19.7	20.6	20.1	20.9	21.3	19.9	20.8	20.3	21.1	21.5
	3H	20.0	20.7	20.4	21.1	21.6	20.3	21.0	20.7	21.4	21.8
	4H	20.1	20.7	20.5	21.1	21.6	20.4	21.0	20.8	21.4	21.9
	6H	20.1	20.6	20.6	21.1	21.6	20.4	20.9	20.8	21.4	21.9
	8H	20.0	20.6	20.5	21.0	21.5	20.4	20.9	20.8	21.3	21.8
	12H	20.0	20.5	20.5	21.0	21.4	20.3	20.8	20.8	21.3	21.7
8H	4H	20.0	20.5	20.5	21.0	21.4	20.3	20.8	20.7	21.2	21.7
	6H	20.0	20.4	20.5	20.9	21.4	20.3	20.7	20.8	21.2	21.7
	8H	20.0	20.4	20.5	20.9	21.4	20.3	20.7	20.8	21.2	21.7
	12H	20.0	20.3	20.5	20.8	21.4	20.3	20.6	20.8	21.1	21.7
12H	4H	19.9	20.4	20.4	20.9	21.4	20.2	20.7	20.7	21.2	21.6
	6H	20.0	20.3	20.5	20.8	21.4	20.3	20.6	20.8	21.1	21.6
	8H	20.0	20.3	20.5	20.8	21.4	20.3	20.6	20.8	21.1	21.7

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0