

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

IF03SMx xx PC 835 030 DLNFGC MW
Nom 3" Square Infinium recessed downlight

Test Number

SP-00763

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	1334
Efficacy	65.41 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.51
Two luminaires, plane 90°	0.51
Four luminaires	0.56

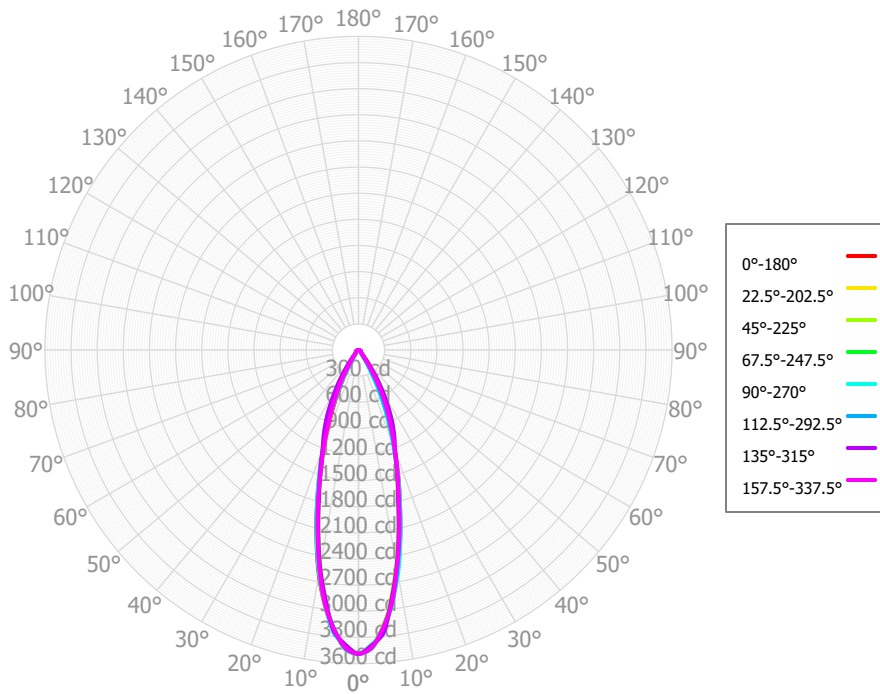
Full Beam Angle

0° - 180°	31°
90° - 270°	31°

IES File Header Contents

Keyword	Value
TEST	SP-00763
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	2/11/2019
UPDATE	2/17/2021
LUMCAT	IF03SMx xx PC 835 030 DLNFGC MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 31 degrees
OTHER	Narrow Flood optic, Clear glass lens
OTHER	Aluminum bezel contains lens
LAMPCAT	N/A
LAMP	N/A, CRI: 80, Philips
OTHER	CCT Multiplier: 27K x 0.96, 30K x 0.98, 40K x 1.04
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting, scaled from 20L
_CRI	80
_LAMPMULT	N/A, 30L only
_CCTMULT	27K x 0.96, 30K x 0.98, 40K x 1.04
_CCTMULTA	27HK x 0.87, 30HK x 0.81

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	288.76	21.64%	90.00° - 100.00°	0.12	0.01%
10.00° - 20.00°	493.32	36.97%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	341.91	25.62%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	110.04	8.25%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	34.37	2.58%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	27.15	2.03%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	26.63	2.00%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	9.10	0.68%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	3.06	0.23%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1334.33	99.99%	0.00° - 180.00°	1334.46	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°	3488.14	3488.14	3488.14	3488.14	3488.14	3488.14	3488.14	3488.14	3488.14	3488.14	3488.14	3488.14	3488.14	3488.14	3488.14	3488.14	3488.14
2.50°	3400.53	3432.90	3386.58	3417.44	3390.52	3438.52	3389.92	3424.75	3404.94	3442.12	3396.31	3426.00	3400.25	3430.48	3399.32	3422.58	3400.53
5.00°	3232.94	3193.06	3235.62	3202.28	3250.50	3217.88	3245.35	3218.35	3246.69	3218.13	3244.94	3217.97	3262.29	3212.10	3267.23	3210.89	3232.94
7.50°	2930.67	2916.25	2874.34	2918.44	2933.65	2944.58	2895.99	2944.11	2954.50	2953.32	2890.90	2928.33	2940.83	2941.45	2896.27	2930.44	2930.67
10.00°	2585.35	2537.02	2499.52	2543.13	2610.51	2566.36	2540.28	2568.71	2622.28	2565.77	2526.28	2553.18	2607.44	2558.79	2523.64	2543.45	2585.35
12.50°	2214.54	2160.93	2120.65	2164.72	2221.61	2166.45	2137.82	2160.46	2227.26	2161.76	2121.22	2144.45	2217.41	2178.27	2131.52	2162.69	2214.54
15.00°	1837.58	1791.61	1745.43	1782.95	1836.82	1799.35	1753.83	1788.72	1841.84	1791.41	1746.11	1780.23	1838.57	1801.49	1754.27	1789.86	1837.58
17.50°	1517.71	1461.76	1472.66	1466.57	1504.87	1436.72	1461.71	1425.97	1468.82	1423.61	1456.79	1429.35	1499.08	1467.86	1479.72	1476.17	1517.71
20.00°	1207.38	1200.73	1210.98	1209.46	1180.73	1190.15	1197.57	1147.90	1137.63	1151.60	1204.90	1168.49	1177.66	1195.35	1226.22	1223.68	1207.38
22.50°	950.15	964.19	1066.39	982.88	913.83	952.10	1035.48	884.32	850.28	883.89	1037.65	928.24	904.38	949.40	1072.42	998.74	950.15
25.00°	698.52	762.55	918.27	778.78	656.14	741.80	868.64	686.25	608.79	686.92	864.67	717.11	649.41	733.98	913.64	797.68	698.52
27.50°	505.28	576.78	746.78	583.98	444.07	533.31	688.78	495.33	406.98	493.74	681.24	510.52	433.21	532.99	737.79	612.24	505.28
30.00°	315.26	409.37	578.55	394.70	257.24	365.19	518.26	345.45	257.69	346.52	511.23	347.02	257.46	345.88	565.95	437.78	315.26
32.50°	204.46	269.22	425.01	251.99	160.19	204.79	368.47	197.82	145.82	208.51	360.87	187.45	151.03	211.38	404.73	292.29	204.46
35.00°	98.15	155.12	282.73	132.06	84.24	135.05	239.94	134.67	89.69	135.30	236.93	126.29	81.79	118.08	262.13	163.22	98.15
37.50°	74.10	90.10	177.44	81.98	66.11	72.18	148.86	73.88	65.56	72.90	144.82	69.72	63.95	72.14	158.90	99.13	74.10
40.00°	51.65	63.77	93.46	58.67	51.55	58.42	84.94	59.40	53.79	61.17	86.37	58.28	51.36	56.20	84.68	65.25	51.65
42.50°	43.61	48.55	64.91	48.40	44.75	46.50	59.52	46.07	47.76	50.77	61.40	47.23	44.77	46.73	59.31	49.59	43.61
45.00°	36.37	40.40	44.13	41.94	38.49	43.29	44.25	43.52	42.74	45.11	47.60	41.84	38.84	40.64	42.66	40.54	36.37
47.50°	33.54	35.34	39.19	37.60	33.16	39.40	41.00	40.58	38.09	39.82	42.83	36.84	33.54	36.62	38.04	35.88	33.54
50.00°	30.32	31.87	35.58	33.73	29.09	33.19	38.05	35.44	33.31	35.54	38.56	35.15	28.92	33.44	34.20	32.41	30.32
52.50°	25.48	30.63	34.15	30.28	26.84	28.73	35.39	31.34	28.49	31.95	34.63	33.41	24.83	29.98	31.24	29.17	25.48
55.00°	22.14	30.32	33.78	26.89	25.74	29.05	34.98	31.52	26.78	29.81	34.13	31.42	23.49	26.42	30.39	25.97	22.14
57.50°	23.40	30.18	34.86	29.12	26.00	29.74	36.34	31.69	25.70	29.85	35.49	30.16	23.88	26.97	31.49	27.98	23.40
60.00°	25.23	30.10	34.65	31.84	27.20	31.25	36.07	31.83	28.18	33.66	36.00	31.75	26.10	28.53	31.52	30.70	25.23
62.50°	28.40	29.78	33.04	31.04	29.27	31.24	34.74	31.18	31.16	34.09	36.15	32.05	29.25	28.86	30.73	30.29	28.40
65.00°	28.92	29.40	29.11	29.99	28.57	28.68	29.05	28.66	28.58	29.82	29.41	28.60	27.84	28.97	27.20	29.66	28.92
67.50°	24.38	24.92	23.12	24.23	25.67	23.43	21.22	23.85	25.13	23.95	20.47	23.55	24.67	24.23	21.95	23.27	24.38
70.00°	18.87	19.75	17.61	18.47	18.78	15.16	14.52	15.71	15.92	16.63	14.72	15.73	16.60	18.91	16.14	16.95	18.87
72.50°	12.25	12.82	12.39	12.69	9.98	9.71	8.72	10.24	9.10	10.91	10.15	9.80	9.00	11.76	10.13	11.61	12.25
75.00°	8.87	8.08	9.51	8.34	7.46	5.98	6.26	6.47	5.98	6.54	8.31	5.27	6.48	7.07	7.48	7.79	8.87
77.50°	6.93	7.00	7.67	5.43	5.82	5.48	4.63	5.39	5.32	5.42	5.88	4.27	4.76	5.78	5.55	5.69	6.93
80.00°	6.35	6.22	7.27	5.16	4.97	4.82	3.81	4.71	5.03	4.50	4.40	3.32	3.78	5.46	4.53	6.46	6.35
82.50°	5.78	4.87	4.87	4.16	3.35	4.21	3.34	3.58	3.85	3.93	3.60	2.72	2.93	3.90	3.76	5.22	5.78
85.00°	2.96	2.95	2.60	2.56	1.75	2.40	2.42	2.07	2.11	2.38	2.44	1.86	1.60	2.44	2.28	2.91	2.96
87.50°	1.70	1.78	2.81	1.79	1.86	1.71	1.74	1.91	2.40	1.93	1.77	1.20	1.72	2.31	1.81	2.16	1.70
90.00°	1.75	1.83	2.09	1.68	1.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	1.64	1.66	1.75
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	1589	1589	1589	1589	1552	1552	1552	1552	1483	1483	1483	1420	1420	1420	1362	1362	1334
	1	1520	1485	1454	1425	1487	1456	1428	1403	1402	1380	1360	1353	1335	1319	1307	1294	1268
	2	1453	1393	1343	1302	1424	1370	1325	1287	1328	1291	1259	1288	1258	1232	1252	1228	1204
	3	1391	1313	1253	1205	1365	1295	1239	1195	1260	1214	1176	1229	1190	1158	1199	1167	1145
	4	1332	1242	1176	1126	1310	1228	1167	1119	1200	1148	1106	1174	1129	1094	1150	1112	1092
	5	1278	1180	1111	1060	1258	1168	1103	1055	1145	1089	1046	1123	1075	1037	1103	1062	1043
	6	1228	1124	1054	1004	1210	1114	1048	1000	1095	1037	994	1077	1026	987	1060	1016	998
	7	1181	1073	1003	954	1165	1065	999	952	1049	990	947	1034	981	942	1020	973	957
	8	1137	1027	958	911	1122	1020	954	909	1006	947	905	994	940	902	982	934	919
	9	1096	985	917	871	1083	979	914	870	967	908	867	957	903	864	946	898	884
	10	1058	947	880	836	1046	941	878	835	931	873	833	922	868	830	913	864	852

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	115.3 fc	3.1 ft
6.5 ft	82.6 fc	3.7 ft
7.5 ft	62.0 fc	4.2 ft
8.0 ft	54.5 fc	4.5 ft
10.0 ft	34.9 fc	5.6 ft
12.0 ft	24.2 fc	6.8 ft
14.0 ft	17.8 fc	7.9 ft
16.0 ft	13.6 fc	9.0 ft
20.0 ft	8.7 fc	11.3 ft
24.0 ft	6.1 fc	13.5 ft
28.0 ft	4.4 fc	15.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1466643	1466643	1466643
45.00°	21625	26244	22888
55.00°	16230	24765	18873
65.00°	28775	28962	28424
75.00°	14407	15448	12116
85.00°	14264	12537	8454

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	16.6	17.6	17.0	17.9	18.2	16.9	17.9	17.2	18.2	18.5
	3H	19.1	20.0	19.5	20.3	20.7	19.1	19.9	19.4	20.3	20.6
	4H	19.4	20.2	19.8	20.6	20.9	19.2	20.0	19.6	20.4	20.8
	6H	19.6	20.4	20.0	20.7	21.1	19.3	20.0	19.7	20.4	20.8
	8H	19.8	20.5	20.2	20.9	21.3	19.3	20.0	19.8	20.4	20.8
	12H	19.9	20.5	20.3	20.9	21.4	19.3	20.0	19.8	20.4	20.8
4H	2H	17.7	18.5	18.1	18.9	19.2	18.0	18.8	18.4	19.1	19.5
	3H	19.9	20.6	20.3	21.0	21.4	19.8	20.5	20.2	20.9	21.3
	4H	20.2	20.8	20.6	21.2	21.7	19.9	20.5	20.4	21.0	21.4
	6H	20.5	21.0	21.0	21.5	22.0	20.1	20.6	20.6	21.0	21.5
	8H	20.7	21.2	21.2	21.7	22.1	20.1	20.6	20.6	21.1	21.5
	12H	20.9	21.3	21.4	21.8	22.2	20.2	20.6	20.6	21.1	21.5
8H	4H	20.3	20.7	20.7	21.2	21.7	19.9	20.4	20.4	20.9	21.3
	6H	20.7	21.1	21.2	21.6	22.1	20.1	20.5	20.7	21.0	21.5
	8H	21.0	21.3	21.5	21.9	22.4	20.3	20.6	20.8	21.1	21.6
	12H	21.2	21.5	21.8	22.0	22.6	20.3	20.6	20.9	21.1	21.7
12H	4H	20.2	20.6	20.7	21.1	21.6	19.9	20.3	20.4	20.8	21.3
	6H	20.7	21.0	21.3	21.5	22.1	20.1	20.5	20.7	20.9	21.5
	8H	21.1	21.3	21.6	21.8	22.4	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