

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

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

### **Test Number**

SP-00764\_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
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#### Lumen Output

Output Lumens	1405
Efficacy	68.85 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.42
Two luminaires, plane 90°	0.44
Four luminaires	0.47

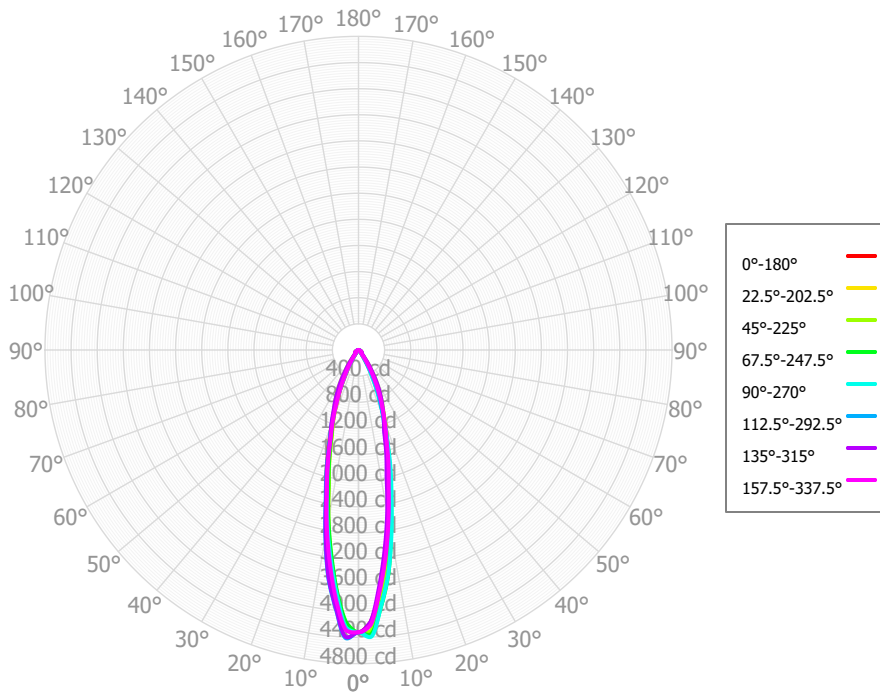
#### Full Beam Angle

0° - 180°	25°
90° - 270°	26°

### IES File Header Contents

Keyword	Value
TEST	SP-00764_2_M-30L
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 DLSPGP MW
LUMINAIRE	Nom 3" Square Infinium recessed downlight
OTHER	Beam Angle: 25 degrees
OTHER	Narrow Flood optic, Solite 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°	331.50	23.60%	90.00° - 100.00°	0.18	0.01%
10.00° - 20.00°	492.94	35.09%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	331.05	23.57%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	114.98	8.19%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	38.43	2.74%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	47.19	3.36%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	31.55	2.25%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	13.84	0.99%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	2.99	0.21%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1404.45	99.99%	0.00° - 180.00°	1404.63	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°	4322.08	4322.08	4322.08	4322.08	4322.08	4322.08	4322.08	4322.08	4322.08	4322.08	4322.08	4322.08	4322.08	4322.08	4322.08	4322.08	4322.08
2.50°	4174.74	4330.80	4306.41	4357.02	4396.20	4417.48	4401.27	4295.61	4287.35	4274.00	4267.17	4186.56	4258.23	4206.91	4171.39	4215.80	4174.74
5.00°	3711.99	3807.24	3827.79	3947.67	3942.40	3977.39	3962.04	3866.81	3834.92	3741.83	3767.78	3732.28	3773.95	3688.52	3634.71	3704.60	3711.99
7.50°	3137.11	3279.02	3280.10	3482.17	3474.78	3528.41	3510.56	3328.20	3355.50	3209.30	3256.01	3175.94	3248.73	3151.35	3073.59	3185.78	3137.11
10.00°	2645.72	2734.39	2697.98	2863.20	2895.41	2917.18	2891.06	2781.67	2799.54	2654.48	2666.29	2646.48	2734.68	2618.65	2529.98	2639.47	2645.72
12.50°	2181.61	2190.16	2111.05	2290.29	2332.03	2316.53	2284.94	2233.13	2283.54	2103.76	2105.35	2126.15	2221.82	2086.11	1987.36	2132.65	2181.61
15.00°	1808.97	1819.83	1722.38	1841.00	1897.96	1884.07	1852.64	1813.29	1876.77	1728.82	1715.23	1738.43	1836.16	1710.75	1641.37	1762.52	1808.97
17.50°	1466.22	1450.21	1361.43	1438.70	1477.25	1461.35	1436.63	1424.72	1493.33	1357.36	1354.68	1394.05	1462.85	1340.30	1305.72	1421.00	1466.22
20.00°	1172.64	1199.82	1160.57	1160.25	1157.17	1193.87	1211.40	1138.52	1171.39	1114.13	1159.83	1137.34	1179.26	1111.31	1134.69	1178.51	1172.64
22.50°	894.52	950.17	980.62	904.98	848.96	931.00	991.47	877.18	875.15	872.75	972.29	908.74	904.00	886.76	971.00	947.33	894.52
25.00°	668.27	756.15	824.99	708.65	624.31	733.15	830.70	673.01	646.67	691.31	825.76	708.33	680.83	701.30	822.42	753.72	668.27
27.50°	457.69	562.82	672.30	523.91	411.36	538.54	670.48	482.10	441.75	511.40	677.34	516.78	462.27	516.77	674.47	568.64	457.69
30.00°	309.84	410.08	516.95	368.13	280.82	387.06	516.15	342.72	296.75	371.37	518.92	367.08	319.51	372.34	520.12	411.35	309.84
32.50°	180.93	258.72	361.27	233.90	161.08	240.94	365.72	214.74	177.40	233.75	368.55	230.02	182.82	228.56	365.54	268.95	180.93
35.00°	116.28	174.00	251.15	152.56	112.68	162.47	253.41	142.85	121.05	158.75	258.72	151.61	125.68	157.74	259.75	174.10	116.28
37.50°	70.25	90.93	146.15	88.01	69.10	88.59	147.63	83.37	75.58	86.22	158.79	90.55	74.57	88.10	155.39	95.61	70.25
40.00°	51.45	66.16	100.13	63.29	55.41	66.93	102.89	60.60	56.84	67.11	108.71	64.34	57.22	66.39	112.39	67.35	51.45
42.50°	40.22	42.09	60.22	45.09	43.39	46.99	62.00	45.57	42.39	48.79	65.79	48.23	42.30	45.12	71.19	45.03	40.22
45.00°	37.33	39.91	51.98	42.08	41.78	45.73	55.68	41.97	38.13	45.12	57.08	46.20	40.85	44.91	61.06	40.64	37.33
47.50°	36.75	38.04	47.03	41.37	41.25	44.88	50.53	40.66	37.29	42.14	51.23	48.08	40.25	44.73	51.61	39.26	36.75
50.00°	43.12	44.93	50.55	45.92	47.04	48.42	54.94	46.50	44.31	52.06	58.71	52.95	47.26	49.35	56.12	46.79	43.12
52.50°	51.34	51.55	54.87	49.47	51.87	51.73	58.98	53.77	50.55	61.21	64.23	58.63	54.71	53.94	60.83	52.71	51.34
55.00°	53.46	51.97	52.70	50.81	51.35	52.95	59.99	56.19	54.98	57.97	60.83	56.04	53.56	52.02	56.51	54.06	53.46
57.50°	53.98	52.04	49.94	49.78	50.12	53.38	59.77	57.69	55.91	54.32	56.34	51.24	51.93	50.04	52.06	52.94	53.98
60.00°	48.72	44.74	43.04	43.50	44.97	46.68	50.07	49.99	49.08	44.80	47.07	43.72	47.88	42.72	43.09	44.89	48.72
62.50°	41.99	37.49	35.79	37.40	39.62	39.81	40.39	40.63	41.78	35.54	37.89	35.50	43.71	35.42	34.10	37.17	41.99
65.00°	34.75	31.17	29.57	31.69	33.27	31.48	30.89	31.70	33.49	29.89	29.10	31.35	36.25	29.17	27.32	30.36	34.75
67.50°	27.40	25.27	23.52	26.73	27.49	24.09	22.32	22.85	26.35	24.44	22.00	28.16	28.84	23.22	20.87	24.39	27.40
70.00°	23.28	21.78	20.40	22.93	23.47	20.59	17.22	18.54	21.01	20.07	19.34	22.14	24.06	19.51	17.57	20.00	23.28
72.50°	19.51	17.89	17.11	18.26	19.09	16.67	13.67	14.62	15.94	16.29	16.08	16.29	19.16	16.37	14.86	16.30	19.51
75.00°	16.04	13.43	13.40	13.12	14.35	12.25	11.94	11.39	11.15	13.34	12.28	12.17	14.04	14.17	13.18	13.10	16.04
77.50°	11.29	9.31	9.17	8.93	9.56	8.88	8.79	7.99	8.63	8.99	8.43	8.07	9.72	10.72	10.19	10.34	11.29
80.00°	6.87	6.43	5.59	5.76	5.97	6.09	6.43	4.79	6.32	5.66	5.74	4.97	5.86	6.72	7.06	7.63	6.87
82.50°	4.31	4.63	3.44	3.43	3.45	3.69	4.45	2.54	3.76	3.61	3.72	3.88	2.89	3.02	4.18	4.70	4.31
85.00°	1.37	2.63	2.11	1.75	1.87	1.89	2.20	2.18	1.83	1.83	1.73	2.36	1.85	1.83	1.99	2.03	1.37
87.50°	1.49	1.53	1.92	1.50	1.53	1.68	1.52	1.78	1.65	1.43	1.25	1.48	1.90	1.61	1.37	1.46	1.49
90.00°	1.53	1.49	1.69	1.51	1.32	1.36	1.57	1.59	1.20	0.98	1.12	1.17	1.37	0.97	1.21	1.49	1.53
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.

<b>RCR</b>	<b>pfc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	<b>0</b>	1672	1672	1672	1672	1633	1633	1633	1633	1561	1561	1561	1494	1494	1494	1433	1433	1404
	<b>1</b>	1598	1561	1527	1497	1564	1530	1500	1473	1474	1450	1428	1422	1403	1385	1374	1359	1332
	<b>2</b>	1526	1462	1408	1364	1495	1438	1389	1348	1393	1353	1319	1351	1319	1291	1313	1287	1262
	<b>3</b>	1459	1376	1311	1260	1432	1357	1298	1250	1320	1271	1230	1287	1246	1211	1256	1222	1198
	<b>4</b>	1397	1301	1231	1177	1373	1285	1220	1170	1256	1200	1156	1229	1181	1143	1203	1163	1142
	<b>5</b>	1340	1235	1162	1107	1319	1222	1154	1103	1198	1139	1093	1176	1124	1084	1154	1110	1090
	<b>6</b>	1288	1177	1102	1049	1268	1166	1096	1045	1146	1084	1038	1127	1073	1032	1109	1062	1044
	<b>7</b>	1239	1124	1050	998	1221	1115	1045	995	1098	1036	990	1082	1027	985	1068	1018	1001
	<b>8</b>	1193	1077	1003	953	1178	1069	1000	951	1055	992	947	1041	985	944	1029	978	963
	<b>9</b>	1151	1034	962	913	1137	1027	959	912	1015	952	909	1003	947	906	992	941	927
	<b>10</b>	1111	994	924	877	1099	989	921	876	978	916	874	968	911	871	959	907	894

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	142.9 fc	2.5 ft
6.5 ft	102.3 fc	2.9 ft
7.5 ft	76.8 fc	3.4 ft
8.0 ft	67.5 fc	3.6 ft
10.0 ft	43.2 fc	4.5 ft
12.0 ft	30.0 fc	5.4 ft
14.0 ft	22.1 fc	6.4 ft
16.0 ft	16.9 fc	7.3 ft
20.0 ft	10.8 fc	9.1 ft
24.0 ft	7.5 fc	10.9 ft
28.0 ft	5.5 fc	12.7 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	1817286	1817286	1817286
<b>45.00°</b>	22195	30910	24843
<b>55.00°</b>	39187	38630	37641
<b>65.00°</b>	34574	29417	33096
<b>75.00°</b>	26059	21769	23317
<b>85.00°</b>	6590	10200	9007

### 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	20.7	21.7	21.1	22.0	22.3	20.6	21.6	21.0	21.9	22.3
	3H	21.7	22.6	22.1	23.0	23.3	21.7	22.6	22.1	23.0	23.3
	4H	22.1	22.9	22.5	23.3	23.7	22.0	22.9	22.5	23.2	23.6
	6H	22.3	23.1	22.7	23.4	23.8	22.2	22.9	22.6	23.3	23.7
	8H	22.3	23.0	22.7	23.4	23.8	22.1	22.9	22.6	23.3	23.7
	12H	22.3	23.0	22.7	23.4	23.8	22.1	22.8	22.6	23.2	23.6
4H	2H	20.9	21.7	21.3	22.1	22.5	20.9	21.7	21.3	22.0	22.4
	3H	22.1	22.8	22.5	23.2	23.6	22.1	22.8	22.5	23.2	23.6
	4H	22.5	23.2	23.0	23.6	24.0	22.5	23.1	22.9	23.5	24.0
	6H	22.8	23.3	23.3	23.8	24.3	22.7	23.2	23.1	23.6	24.1
	8H	22.8	23.3	23.3	23.8	24.3	22.7	23.1	23.1	23.6	24.1
	12H	22.8	23.3	23.3	23.7	24.2	22.6	23.1	23.1	23.6	24.0
8H	4H	22.6	23.1	23.1	23.5	24.0	22.5	23.0	23.0	23.4	23.9
	6H	22.9	23.3	23.4	23.8	24.3	22.7	23.1	23.2	23.6	24.1
	8H	23.0	23.4	23.6	23.9	24.4	22.8	23.1	23.3	23.6	24.1
	12H	23.0	23.3	23.6	23.8	24.4	22.8	23.1	23.3	23.6	24.2
12H	4H	22.6	23.0	23.0	23.5	23.9	22.5	22.9	23.0	23.4	23.9
	6H	22.9	23.3	23.4	23.7	24.3	22.7	23.0	23.2	23.5	24.1
	8H	23.0	23.3	23.5	23.8	24.4	22.8	23.1	23.3	23.6	24.1

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0