

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

ES03RMFxx 930 007 xxx WW WF LW MW
Nom 3 inch diam round recessed wall wash estimator downlight

Test Number

SP-00871_M-007L

Test Date

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

Summary of Results

Power

Input Watts	8.8 W
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Lumen Output

Output Lumens	280
Efficacy	31.82 lm/W

Luminous Dimensions

0° - 180° Size	-0.22
90° - 270° Size	-0.22
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.52
Two luminaires, plane 90°	0.81
Four luminaires	1.07

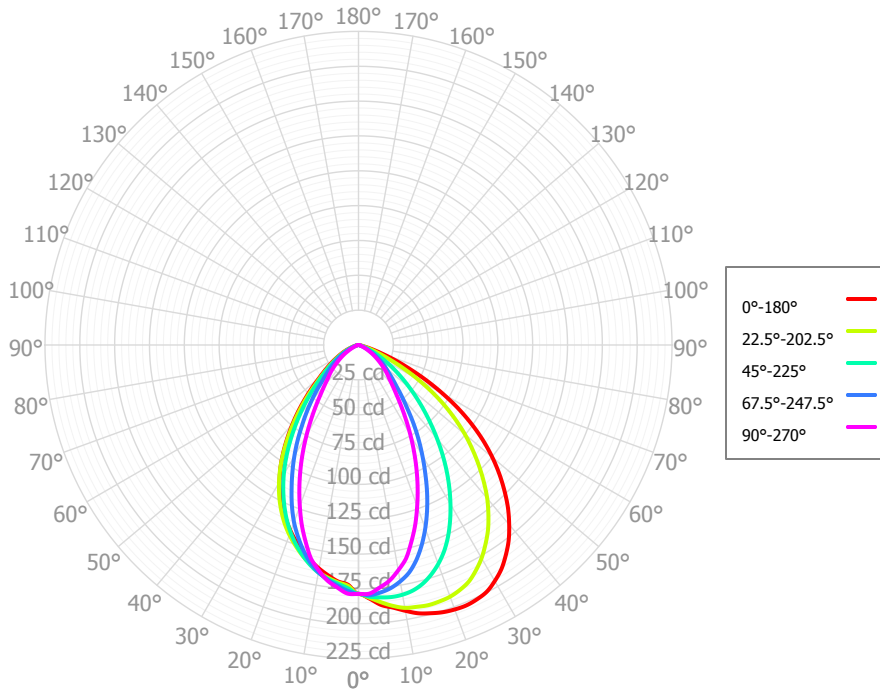
Full Beam Angle

0° - 180°	88°
90° - 270°	49°

IES File Header Contents

Keyword	Value
TEST	SP-00871_M-007L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	6/6/2019
UPDATE	7/25/2019
LUMCAT	ES03RMFxx 930 007 xxx WW WF LW MW
LUMINAIRE	Nom 3 inch diam round recessed wall wash estimator downlight
LAMPCAT	N/A
LAMP	N/A; CRI: 90, 9mm LES
OTHER	Asymmetrical Beam: 87.5 degrees x 55.2 degrees
OTHER	CCT Output Multipliers: 27HK x 0.97
OTHER	This report prepared by Spectrum Lighting, scaled from 13L
_CCTMULT	27HK x 0.97

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	17.23	6.15%	90.00° - 100.00°	0.01	0.00%
10.00° - 20.00°	46.12	16.46%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	62.29	22.23%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	61.03	21.78%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	47.31	16.88%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	30.23	10.79%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	12.87	4.59%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.68	0.96%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.50	0.18%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	280.25	100.00%	0.00° - 180.00°	280.25	100.00%

Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°	112.50°	135.00°	157.50°	180.00°
0.00°	178.63	178.63	178.63	178.63	178.63	178.63	178.63	178.63	178.63
2.50°	182.20	181.62	180.81	179.76	178.59	176.63	174.73	172.98	172.23
5.00°	187.31	185.33	181.84	178.37	174.72	173.29	171.85	170.95	170.27
7.50°	190.10	188.86	182.40	176.06	170.57	169.93	169.30	168.42	166.76
10.00°	193.70	191.58	181.97	172.30	164.22	165.59	165.90	165.41	162.92
12.50°	197.20	192.50	180.46	167.39	157.16	159.97	161.39	160.85	158.51
15.00°	199.31	193.31	177.49	160.01	146.41	152.63	155.90	156.20	153.61
17.50°	201.08	193.00	172.98	150.70	135.34	144.34	149.73	150.75	148.19
20.00°	201.99	192.22	167.29	140.10	123.13	135.34	142.80	145.04	142.27
22.50°	202.30	190.25	160.38	128.59	110.88	124.88	134.95	138.57	135.77
25.00°	201.35	187.34	151.96	116.40	98.53	113.59	126.23	131.16	128.84
27.50°	199.54	182.43	142.31	103.74	86.32	102.68	116.96	123.10	121.18
30.00°	195.61	176.65	132.00	91.68	74.45	92.03	107.23	114.05	113.27
32.50°	190.80	169.59	121.27	80.13	63.24	81.37	96.91	104.43	104.19
35.00°	184.26	162.04	110.25	68.81	53.20	70.77	86.34	93.68	94.10
37.50°	177.02	153.12	98.97	57.64	44.58	61.44	75.79	82.67	83.61
40.00°	168.24	143.71	87.72	48.58	37.96	52.63	65.79	71.84	73.28
42.50°	158.83	133.06	76.88	40.58	32.63	44.68	56.36	61.27	63.23
45.00°	148.20	122.11	66.64	34.67	28.80	36.98	47.50	51.23	53.49
47.50°	137.12	110.90	57.08	29.55	24.93	31.89	39.63	41.94	44.72
50.00°	125.36	99.69	48.17	25.67	21.01	27.31	33.16	34.89	36.87
52.50°	112.89	87.52	40.06	22.23	17.55	23.39	27.82	28.91	30.94
55.00°	99.34	75.15	32.77	18.48	14.45	19.65	23.00	24.13	26.03
57.50°	84.99	62.13	26.15	14.63	11.52	16.55	18.76	19.93	21.73
60.00°	69.77	49.02	20.31	11.46	8.70	13.55	15.03	16.37	17.72
62.50°	54.82	36.60	15.16	8.53	6.58	10.48	11.83	13.17	14.54
65.00°	40.29	25.25	10.82	6.24	4.72	7.61	9.13	10.33	11.69
67.50°	28.48	16.91	7.10	4.26	3.42	5.45	6.81	7.65	9.09
70.00°	17.65	10.61	4.29	2.54	2.22	3.76	4.61	5.02	6.42
72.50°	10.49	5.81	2.30	1.81	1.23	2.46	2.95	3.46	4.67
75.00°	5.16	3.17	1.30	1.14	1.14	1.66	2.05	2.62	3.19
77.50°	2.31	1.79	0.92	0.59	0.65	1.20	1.42	1.91	2.02
80.00°	1.20	1.02	0.62	0.52	0.59	0.90	1.03	1.24	1.60
82.50°	0.65	0.55	0.59	0.53	0.65	0.67	0.71	0.80	1.23
85.00°	0.73	0.67	0.38	0.08	0.00	0.56	0.56	0.69	0.66
87.50°	0.52	0.17	0.00	0.00	0.00	0.08	0.37	0.62	0.50
90.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.81

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	334	334	334	334	326	326	326	326	311	311	311	298	298	298	286	286	280
	1	313	303	295	287	306	297	289	282	286	279	273	275	270	265	265	261	256
	2	292	274	260	247	285	269	256	245	260	249	239	251	242	234	243	235	231
	3	272	248	230	216	265	244	228	214	236	222	211	229	217	207	222	212	208
	4	253	226	206	191	247	222	204	189	216	200	187	210	196	185	204	192	188
	5	236	206	185	170	231	203	184	169	198	181	167	193	178	166	188	175	171
	6	220	189	168	153	216	186	167	152	182	164	151	177	162	150	173	159	156
	7	206	174	153	138	202	172	152	138	168	150	137	164	148	136	161	146	144
	8	194	161	140	126	190	159	139	126	156	138	125	152	136	124	149	135	132
	9	182	149	129	116	179	148	128	115	145	127	115	142	126	114	139	125	123
	10	172	139	120	107	169	138	119	106	135	118	106	133	117	106	131	116	114

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	5.9 fc	10.3 ft
6.5 ft	4.2 fc	12.1 ft
7.5 ft	3.2 fc	14.0 ft
8.0 ft	2.8 fc	14.9 ft
10.0 ft	1.8 fc	18.7 ft
12.0 ft	1.2 fc	22.4 ft
14.0 ft	0.9 fc	26.1 ft
16.0 ft	0.7 fc	29.9 ft
20.0 ft	0.4 fc	37.3 ft
24.0 ft	0.3 fc	44.8 ft
28.0 ft	0.2 fc	52.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	50,582	50,582	50,582
45.00°	59,347	26,686	11,535
55.00°	49,043	16,179	7,134
65.00°	26,997	7,250	3,162
75.00°	5,645	1,421	1,251
85.00°	2,375	1,243	0

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	25.2	26.6	25.6	26.9	27.2	15.2	16.6	15.6	16.9	17.2
	3H	25.6	26.8	26.0	27.1	27.5	15.5	16.6	15.8	17.0	17.3
	4H	25.6	26.7	26.0	27.1	27.4	15.4	16.5	15.8	16.9	17.3
	6H	25.5	26.5	25.9	26.9	27.3	15.4	16.4	15.8	16.8	17.2
	8H	25.5	26.4	25.9	26.8	27.2	15.4	16.3	15.8	16.7	17.1
	12H	25.4	26.4	25.9	26.7	27.2	15.3	16.3	15.8	16.6	17.1
4H	2H	25.1	26.2	25.5	26.5	26.9	15.6	16.7	16.0	17.0	17.4
	3H	25.5	26.4	25.9	26.8	27.2	15.9	16.8	16.3	17.2	17.6
	4H	25.5	26.3	25.9	26.7	27.1	15.9	16.7	16.3	17.1	17.6
	6H	25.4	26.1	25.9	26.5	27.0	15.9	16.6	16.4	17.0	17.5
	8H	25.3	26.0	25.8	26.4	26.9	15.9	16.5	16.3	17.0	17.4
	12H	25.3	25.9	25.8	26.3	26.8	15.8	16.4	16.3	16.9	17.4
8H	4H	25.3	26.0	25.8	26.4	26.9	15.9	16.5	16.4	17.0	17.5
	6H	25.2	25.8	25.7	26.3	26.7	15.9	16.4	16.4	16.9	17.4
	8H	25.2	25.6	25.7	26.2	26.7	15.9	16.4	16.4	16.9	17.4
	12H	25.1	25.6	25.7	26.1	26.6	15.9	16.3	16.4	16.8	17.4
12H	4H	25.3	25.8	25.8	26.3	26.8	15.9	16.4	16.3	16.9	17.4
	6H	25.2	25.7	25.7	26.1	26.7	15.9	16.3	16.4	16.8	17.3
	8H	25.1	25.6	25.7	26.0	26.6	15.9	16.3	16.4	16.8	17.4

Corrected UGR values based on total output lumens

SHR = 1.0