

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SR4MOTA5 LE1 RDD4x AMB MWxSO
Nom 4" diam recessed downlight

Test Number

SP-00789_2

Test Date

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

Summary of Results

Power

Input Watts	15.8 W
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Lumen Output

Output Lumens	390
Efficacy	24.67 lm/W

Luminous Dimensions

0° - 180° Size	-0.33
90° - 270° Size	-0.33
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.12
Two luminaires, plane 90°	1.11
Four luminaires	1.08

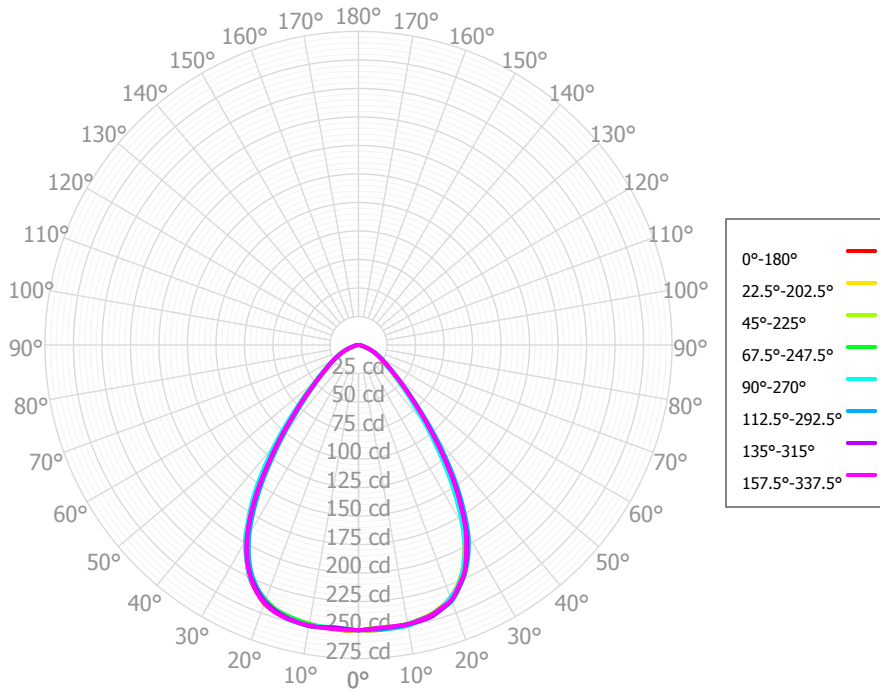
Full Beam Angle

0° - 180°	75°
90° - 270°	75°

IES File Header Contents

Keyword	Value
TEST	SP-00789_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	3/14/2019
UPDATE	4/4/2019
LUMCAT	SR4MOTA5 LE1 RDD4x AMB MWxSO
LUMINAIRE	Nom 4" diam recessed downlight
OTHER	Beam Angle: 75.3 degrees
OTHER	Matte white trim; Solite lens
LAMPCAT	N/A
LAMP	N/A, LEDs Amber in color, 590 nm
OTHER	CCT Output Multipliers: N/A
OTHER	Total luminaire wattages is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	N/A
_CCTMULT	N/A
_LAMPMULT	N/A

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	24.18	6.20%	90.00° - 100.00°	0.12	0.03%
10.00° - 20.00°	69.30	17.78%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	100.39	25.76%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	91.24	23.41%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	53.25	13.66%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	28.55	7.32%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	15.56	3.99%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	5.44	1.39%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.73	0.44%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	389.63	99.97%	0.00° - 180.00°	389.75	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°	250.15	250.15	250.15	250.15	250.15	250.15	250.15	250.15	250.15	250.15	250.15	250.15	250.15	250.15	250.15	250.15	250.15
2.50°	250.47	251.00	248.78	249.24	249.83	249.84	249.24	250.02	250.79	250.69	249.30	249.76	248.98	250.49	249.63	249.15	250.47
5.00°	249.53	250.54	248.33	249.36	250.18	249.37	248.62	250.21	249.54	250.03	249.28	249.80	248.48	250.52	249.20	248.60	249.53
7.50°	249.99	249.91	248.67	248.89	250.48	249.89	249.62	250.00	249.86	249.24	249.19	249.17	249.02	249.99	249.02	248.57	249.99
10.00°	249.80	249.26	248.65	248.21	250.03	250.21	250.22	249.65	250.27	248.40	249.07	248.25	249.77	249.34	248.79	248.65	249.80
12.50°	247.70	247.04	246.67	246.77	248.26	249.52	248.75	249.04	249.06	247.42	248.62	246.98	248.38	247.53	248.13	247.06	247.70
15.00°	245.05	244.69	244.40	245.16	245.47	248.06	246.94	247.77	247.73	245.94	247.54	245.10	246.72	245.61	246.94	245.25	245.05
17.50°	241.17	240.70	241.11	241.40	241.28	243.95	243.91	245.61	244.89	243.40	243.26	242.64	243.61	243.02	242.93	241.79	241.17
20.00°	235.74	236.22	236.23	237.32	235.62	238.87	239.74	241.11	241.46	239.42	238.48	237.76	240.35	239.16	238.04	238.15	235.74
22.50°	227.71	228.42	227.38	228.70	228.43	231.42	232.71	234.25	234.11	233.15	232.02	231.05	233.20	230.83	230.07	229.19	227.71
25.00°	216.87	219.11	216.24	219.75	216.84	221.78	223.89	224.37	225.66	223.90	223.86	221.65	225.58	221.26	220.28	219.71	216.87
27.50°	202.47	203.47	200.82	202.55	201.65	208.23	211.79	212.09	212.68	210.93	211.52	210.71	212.89	208.54	205.99	204.27	202.47
30.00°	184.45	186.09	182.35	184.95	181.86	191.47	196.00	195.45	197.96	194.95	196.80	194.52	199.22	193.00	189.33	187.98	184.45
32.50°	162.84	163.64	159.50	161.56	159.20	170.25	175.07	176.17	178.34	176.08	177.75	176.07	179.92	172.16	168.18	166.54	162.84
35.00°	140.02	140.71	136.44	138.22	135.79	147.41	152.68	153.14	157.34	154.46	156.88	154.12	159.87	150.43	145.71	144.75	140.02
37.50°	116.29	116.77	113.15	115.26	112.04	122.84	128.67	128.40	133.43	130.83	133.50	131.06	137.10	127.44	121.37	121.63	116.29
40.00°	95.70	95.21	92.56	93.49	91.86	100.85	106.72	106.59	110.76	109.20	111.39	109.93	114.76	105.49	99.79	99.75	95.70
42.50°	76.93	77.47	74.27	76.63	72.93	80.98	86.50	85.78	90.06	88.74	90.64	89.21	93.57	84.70	81.24	81.13	76.93
45.00°	62.48	62.58	59.99	61.43	60.02	65.69	70.17	70.18	72.64	72.47	73.94	73.07	74.78	68.14	65.93	64.82	62.48
47.50°	49.95	51.19	48.37	51.07	48.56	53.34	56.33	55.77	59.18	58.01	60.62	57.49	60.67	55.21	53.40	53.11	49.95
50.00°	41.78	42.18	39.93	41.83	40.59	44.35	46.45	46.36	48.21	48.02	49.78	47.89	49.04	45.18	43.71	43.07	41.78
52.50°	35.00	35.42	33.07	34.97	33.12	36.97	38.54	37.63	39.59	39.39	40.52	38.66	41.02	37.07	35.87	35.51	35.00
55.00°	29.62	29.68	28.12	29.10	28.34	31.46	32.98	32.32	33.03	33.25	33.69	33.11	34.29	31.29	30.34	29.44	29.62
57.50°	24.53	24.69	23.87	24.80	23.76	26.60	28.27	27.24	27.96	27.63	28.05	27.71	29.05	26.71	25.95	25.09	24.53
60.00°	21.16	20.80	20.41	20.84	20.39	22.66	23.84	23.38	23.66	23.33	23.96	23.94	24.60	23.12	22.02	21.33	21.16
62.50°	17.99	17.54	17.17	17.30	17.05	18.95	19.48	19.57	19.78	19.20	20.41	20.24	20.84	19.90	18.25	18.11	17.99
65.00°	14.72	14.48	14.17	14.30	14.06	15.61	16.07	16.53	16.54	16.40	17.25	16.96	17.27	16.28	15.14	14.94	14.72
67.50°	11.47	11.50	11.20	11.78	11.06	12.33	12.80	13.42	13.57	13.63	14.18	13.69	13.84	12.56	12.20	11.80	11.47
70.00°	8.67	8.65	8.03	9.00	8.06	9.55	9.94	9.96	10.78	10.52	10.78	10.45	10.92	9.51	9.26	8.92	8.67
72.50°	6.04	5.96	5.42	6.10	5.54	6.89	7.21	7.01	8.00	7.63	7.54	7.38	8.18	6.67	6.44	6.18	6.04
75.00°	3.75	4.21	4.41	4.16	3.66	4.55	4.85	4.74	5.02	5.17	5.03	4.48	5.38	4.42	4.07	4.51	3.75
77.50°	2.78	3.39	3.17	3.01	2.93	3.45	3.80	3.65	3.45	3.45	3.65	3.66	3.43	3.29	2.78	3.16	2.78
80.00°	2.30	2.99	2.18	2.56	2.31	2.93	3.00	2.77	2.88	2.48	2.80	2.94	2.32	2.57	2.21	2.24	2.30
82.50°	2.01	2.06	1.73	1.19	1.80	2.40	1.88	2.15	2.43	2.10	1.95	2.16	1.59	1.67	2.04	1.88	2.01
85.00°	1.65	1.20	1.23	1.39	1.49	1.36	1.38	1.94	1.11	1.47	1.34	1.56	1.42	1.38	1.83	1.50	1.65
87.50°	1.17	1.14	0.80	1.21	1.00	1.21	1.24	1.22	0.98	1.49	1.41	1.57	1.20	1.21	1.13	1.54	1.17
90.00°	1.22	0.47	1.13	0.36	0.74	1.17	1.24	1.22	0.28	0.98	1.00	0.78	0.97	0.92	0.90	0.48	1.22
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	464	464	464	464	453	453	453	453	433	433	433	415	415	415	398	398	390
	1	436	423	411	400	426	414	403	393	398	389	381	383	376	370	370	364	357
	2	408	384	364	348	398	377	359	344	364	349	336	352	339	329	341	331	322
	3	381	350	326	306	372	344	322	304	333	314	299	323	307	294	314	301	294
	4	356	320	293	273	348	315	290	271	306	284	268	298	279	264	290	274	269
	5	333	293	265	245	326	289	263	244	282	259	241	275	255	239	268	251	246
	6	312	270	242	222	306	267	240	221	261	237	219	255	234	217	249	230	226
	7	293	250	222	202	287	247	220	201	242	218	200	236	215	199	232	212	209
	8	276	232	204	185	271	229	203	184	225	201	184	220	199	183	216	197	193
	9	260	216	189	170	255	214	188	170	210	186	169	206	184	169	202	182	179
	10	246	202	175	157	241	200	174	157	196	173	157	193	171	156	190	170	167

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	8.3 fc	8.1 ft
6.5 ft	5.9 fc	9.6 ft
7.5 ft	4.4 fc	11.0 ft
8.0 ft	3.9 fc	11.8 ft
10.0 ft	2.5 fc	14.7 ft
12.0 ft	1.7 fc	17.6 ft
14.0 ft	1.3 fc	20.6 ft
16.0 ft	1.0 fc	23.5 ft
20.0 ft	0.6 fc	29.4 ft
24.0 ft	0.4 fc	35.3 ft
28.0 ft	0.3 fc	41.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	31,481	31,481	31,481
45.00°	11,121	10,677	10,682
55.00°	6,499	6,170	6,218
65.00°	4,383	4,218	4,186
75.00°	1,825	2,142	1,778
85.00°	2,377	1,781	2,151

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	14.6	15.8	14.9	16.2	16.5	15.2	16.4	15.5	16.8	17.1
	3H	15.4	16.6	15.8	16.9	17.3	16.1	17.2	16.5	17.5	17.9
	4H	15.6	16.6	16.0	16.9	17.3	16.2	17.3	16.6	17.6	18.0
	6H	15.6	16.6	16.0	16.9	17.3	16.3	17.2	16.7	17.6	18.0
	8H	15.6	16.5	16.1	16.9	17.3	16.3	17.2	16.7	17.6	18.0
	12H	15.7	16.5	16.1	16.9	17.3	16.3	17.1	16.7	17.5	17.9
4H	2H	14.9	15.9	15.3	16.3	16.7	15.5	16.6	15.9	16.9	17.3
	3H	15.9	16.7	16.3	17.1	17.5	16.6	17.4	17.0	17.8	18.2
	4H	16.0	16.8	16.5	17.2	17.7	16.7	17.5	17.2	17.9	18.4
	6H	16.2	16.8	16.6	17.2	17.7	16.8	17.5	17.3	17.9	18.4
	8H	16.2	16.8	16.7	17.2	17.7	16.9	17.5	17.3	17.9	18.4
	12H	16.3	16.8	16.7	17.3	17.7	16.9	17.4	17.4	17.9	18.4
8H	4H	16.0	16.6	16.5	17.1	17.6	16.8	17.4	17.2	17.8	18.3
	6H	16.2	16.7	16.7	17.2	17.7	16.9	17.4	17.4	17.9	18.4
	8H	16.3	16.7	16.8	17.3	17.7	17.0	17.4	17.5	18.0	18.4
	12H	16.4	16.8	16.9	17.3	17.9	17.1	17.5	17.6	18.0	18.5
12H	4H	16.0	16.5	16.5	17.0	17.5	16.7	17.3	17.2	17.7	18.2
	6H	16.2	16.6	16.7	17.1	17.6	16.9	17.3	17.4	17.8	18.4
	8H	16.3	16.7	16.8	17.2	17.8	17.0	17.4	17.5	17.9	18.5

Corrected UGR values based on total output lumens

SHR = 1.0