

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SR3Mx 20L 35HK WW xx xx RNW3F 20L 35HK WW MB NL
Nom 3 inch dia round open wall wash, matte black finish, no lens

Test Number

SP-01418_1

Test Date

8/31/2022

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

Summary of Results

Power

Input Watts	21.2 W
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Lumen Output

Output Lumens	1341
Efficacy	63.24 lm/W

Luminous Dimensions

0° - 180° Size	-0.25
90° - 270° Size	-0.25
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.04
Two luminaires, plane 90°	1.17
Four luminaires	1

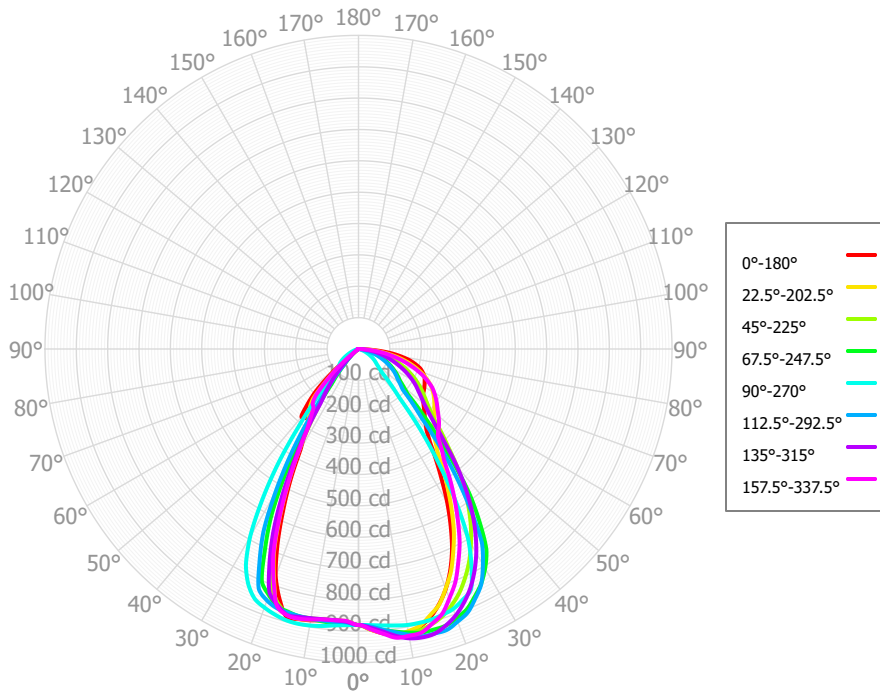
Full Beam Angle

0° - 180°	61°
90° - 270°	69°

IES File Header Contents

Keyword	Value
TEST	SP-01418_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	8/31/2022
ISSUEDATE	10/25/2022
LUMCAT	SR3Mx 20L 35HK WW xx xx RNW3F 20L 35HK WW MB NL
LUMINAIRE	Nom 3 inch dia round open wall wash, matte black finish, no lens
OTHER	Beam Angle: 61 x 72 degrees
LAMPCAT	N/A, 19mm LES
LAMP	N/A, Min. 90 CRI
OTHER	Reference project SL167
OTHER	minus 2W, no thermal protection required for 7L, 10L, and 15L (non-IC)
OTHER	minus 2W, no thermal protection required for all (including 20L and 25L) IC luminaires
OTHER	Total Luminaire Watts is approximate
OTHER	CCT Output Multipliers: 27HK x 0.92, 30HK x 0.96, 40HK x 1.03
OTHER	This report prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	86.48	6.45%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	250.27	18.67%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	331.46	24.72%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	260.29	19.41%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	156.19	11.65%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	104.11	7.76%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	82.72	6.17%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	52.96	3.95%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	16.29	1.22%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1340.76	100.00%	0.00° - 180.00°	1340.76	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°	880.45	880.45	880.45	880.45	880.45	880.45	880.45	880.45	880.45	880.45	880.45	880.45	880.45	880.45	880.45	880.45	880.45
2.50°	896.06	896.52	894.15	890.12	881.74	873.08	870.87	868.65	870.82	868.96	873.47	879.67	881.60	886.11	890.05	895.15	896.06
5.00°	910.92	909.49	905.50	899.82	885.34	873.41	868.23	868.81	868.50	869.00	870.24	878.03	884.97	898.86	905.01	911.85	910.92
7.50°	920.71	922.39	915.74	909.45	889.53	873.69	869.43	870.11	872.29	869.69	869.82	876.52	891.13	911.75	923.34	928.92	920.71
10.00°	921.23	913.80	919.24	918.48	894.00	873.31	871.99	876.32	878.85	876.28	872.08	875.09	895.54	925.45	937.11	928.81	921.23
12.50°	907.08	904.62	917.59	926.52	894.76	872.74	875.21	880.89	882.38	881.56	873.84	873.60	897.48	938.72	942.12	926.60	907.08
15.00°	885.61	880.09	908.01	926.80	893.90	870.42	878.65	879.49	884.70	877.93	875.16	867.69	895.37	939.39	939.87	907.36	885.61
17.50°	853.83	855.09	892.94	925.43	889.00	866.74	857.03	861.55	837.12	863.04	851.77	860.97	888.05	939.22	925.07	886.54	853.83
20.00°	814.20	812.88	869.58	913.96	882.51	853.58	828.68	791.19	772.36	787.31	809.23	835.51	877.52	925.25	905.09	847.00	814.20
22.50°	764.54	769.95	841.11	900.05	866.77	829.98	742.16	710.01	675.61	705.49	728.39	804.94	863.31	909.91	877.18	806.33	764.54
25.00°	705.83	714.75	804.88	874.07	847.86	746.67	642.52	599.22	569.18	595.89	621.08	706.24	830.36	879.84	843.09	752.62	705.83
27.50°	636.78	658.81	764.33	845.79	780.88	656.26	526.06	490.80	468.49	488.75	508.12	604.90	777.82	847.23	800.55	698.44	636.78
30.00°	566.22	594.72	717.17	807.84	699.45	532.77	406.39	388.13	369.27	390.97	391.62	477.90	691.31	793.86	751.40	634.93	566.22
32.50°	494.10	531.07	666.77	759.27	579.09	409.48	306.86	305.30	318.45	309.04	298.57	352.80	573.04	732.55	694.05	571.39	494.10
35.00°	430.40	471.21	610.69	673.07	448.80	286.98	210.41	264.77	278.33	279.80	218.54	241.55	448.80	621.13	630.95	509.66	430.40
37.50°	374.53	414.73	552.11	580.05	325.61	179.20	166.71	235.48	277.13	254.51	168.66	140.78	319.48	509.78	561.48	449.00	374.53
40.00°	337.51	380.08	488.71	465.85	203.92	121.12	129.46	227.75	282.96	240.48	133.88	101.90	221.37	398.75	487.89	410.78	337.51
42.50°	316.14	349.19	423.44	360.40	148.81	72.47	93.91	202.85	243.23	213.31	96.47	66.73	146.96	297.83	410.16	374.42	316.14
45.00°	298.47	338.45	370.86	278.38	105.59	51.17	58.51	148.83	196.73	152.79	57.90	49.32	106.93	240.50	350.33	361.47	298.47
47.50°	283.59	327.58	322.51	213.21	89.26	33.69	36.66	97.74	131.27	97.12	33.92	34.04	90.40	191.61	306.65	348.29	283.59
50.00°	270.38	316.18	294.38	188.24	76.71	26.05	15.64	51.06	63.67	52.24	15.54	27.48	80.40	173.69	274.60	333.01	270.38
52.50°	258.28	305.12	272.17	167.23	68.73	19.28	9.39	19.55	33.51	18.97	8.46	21.32	74.41	157.43	252.10	318.06	258.28
55.00°	251.15	295.35	253.88	154.49	61.26	14.49	3.58	8.79	6.32	8.62	5.24	16.53	66.60	146.41	233.13	305.41	251.15
57.50°	247.04	285.33	236.56	141.66	53.17	10.32	2.94	2.48	3.22	1.83	3.57	12.13	57.80	134.77	216.74	292.64	247.04
60.00°	242.58	274.51	218.85	128.64	45.03	7.39	2.31	1.60	1.38	1.32	2.36	8.90	48.67	121.41	198.93	279.15	242.58
62.50°	237.93	262.40	201.04	115.60	37.41	5.11	1.84	1.14	1.29	1.08	2.02	6.11	39.37	107.91	180.18	264.48	237.93
65.00°	232.84	246.70	181.81	102.54	29.82	3.96	1.39	1.17	1.24	1.27	1.91	4.49	31.67	94.08	160.66	244.32	232.84
67.50°	227.54	229.45	162.33	89.61	23.22	3.14	1.37	1.14	1.18	1.38	1.60	3.24	24.66	80.31	140.69	223.24	227.54
70.00°	218.00	208.40	141.79	76.87	16.65	2.85	1.34	1.05	1.13	1.38	1.26	2.82	18.79	66.69	121.81	198.55	218.00
72.50°	206.64	186.16	121.11	64.08	11.92	2.53	1.30	1.08	1.29	1.31	1.28	2.44	13.37	53.42	103.52	173.39	206.64
75.00°	188.37	161.33	102.39	51.22	7.29	2.16	1.26	1.20	1.44	1.17	1.37	2.11	9.49	40.84	86.33	146.62	188.37
77.50°	167.54	134.80	83.88	39.01	5.52	1.84	1.16	1.27	1.38	1.16	1.34	1.80	6.13	29.30	69.65	119.81	167.54
80.00°	138.36	104.94	65.64	27.56	3.77	1.58	1.09	1.31	1.31	1.30	1.29	1.53	4.25	19.51	53.20	92.87	138.36
82.50°	106.43	74.05	47.43	17.50	2.56	1.37	1.21	1.30	1.21	1.36	1.47	1.39	2.79	11.37	36.85	65.27	106.43
85.00°	65.24	41.42	27.70	8.96	1.44	1.20	1.30	1.28	1.14	1.34	1.67	1.46	2.02	5.73	21.55	35.94	65.24
87.50°	21.44	17.56	7.89	3.80	1.34	1.16	1.25	1.31	1.23	1.38	1.41	1.42	1.42	2.18	6.63	13.37	21.44
90.00°	7.95	7.31	4.56	1.95	1.25	1.23	1.20	1.37	1.31	1.49	1.12	1.22	1.19	1.51	2.21	5.95	7.95

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	1596	1596	1596	1596	1559	1559	1559	1559	1490	1490	1490	1426	1426	1426	1368	1368	1341
	1	1488	1436	1390	1349	1453	1407	1365	1327	1351	1317	1286	1300	1272	1247	1252	1231	1205
	2	1384	1295	1221	1160	1351	1271	1203	1146	1225	1169	1120	1183	1136	1095	1144	1106	1083
	3	1289	1174	1086	1015	1259	1154	1073	1007	1117	1047	990	1082	1023	973	1050	1000	979
	4	1204	1072	975	902	1176	1055	965	896	1024	946	885	995	928	873	968	910	892
	5	1126	984	884	810	1101	970	876	806	943	861	798	919	847	791	896	833	817
	6	1057	907	807	735	1034	895	801	732	873	789	726	852	778	721	833	767	752
	7	993	840	741	671	973	830	736	669	811	727	665	794	718	661	777	709	696
	8	936	781	684	617	917	773	680	615	756	672	612	741	665	609	727	658	646
	9	884	729	634	570	867	722	631	569	708	625	566	695	619	564	682	613	603
	10	837	683	590	529	821	676	588	528	664	583	526	653	577	524	642	573	564

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	29.1 fc	6.5 ft
6.5 ft	20.8 fc	7.7 ft
7.5 ft	15.7 fc	8.8 ft
8.0 ft	13.8 fc	9.4 ft
10.0 ft	8.8 fc	11.8 ft
12.0 ft	6.1 fc	14.1 ft
14.0 ft	4.5 fc	16.5 ft
16.0 ft	3.4 fc	18.9 ft
20.0 ft	2.2 fc	23.6 ft
24.0 ft	1.5 fc	28.3 ft
28.0 ft	1.1 fc	33.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	193065	193065	193065
45.00°	92557	115007	32744
55.00°	96014	97060	23419
65.00°	120811	94333	15470
75.00°	159597	86749	6178
85.00°	164141	69690	3620

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	29.1	30.4	29.4	30.7	31.0	10.3	11.7	10.7	12.0	12.3
	3H	31.6	32.8	32.0	33.1	33.5	12.2	13.4	12.6	13.7	14.1
	4H	32.8	33.9	33.2	34.3	34.6	12.7	13.8	13.1	14.1	14.5
	6H	33.8	34.9	34.3	35.2	35.6	12.9	14.0	13.3	14.3	14.7
	8H	34.2	35.2	34.7	35.6	36.0	13.0	14.0	13.4	14.4	14.8
	12H	34.5	35.5	35.0	35.8	36.3	13.1	14.0	13.5	14.4	14.8
4H	2H	29.4	30.5	29.8	30.9	31.2	10.1	11.2	10.5	11.6	12.0
	3H	32.2	33.1	32.6	33.5	33.9	12.0	12.9	12.4	13.3	13.7
	4H	33.6	34.4	34.0	34.8	35.2	12.5	13.3	12.9	13.7	14.2
	6H	34.8	35.5	35.2	35.9	36.4	12.8	13.5	13.3	14.0	14.4
	8H	35.2	35.9	35.7	36.3	36.8	12.9	13.6	13.4	14.1	14.5
	12H	35.6	36.2	36.1	36.7	37.1	13.1	13.7	13.6	14.1	14.6
8H	4H	33.6	34.3	34.1	34.8	35.2	12.4	13.0	12.8	13.5	13.9
	6H	35.0	35.5	35.5	36.0	36.5	12.7	13.3	13.2	13.8	14.2
	8H	35.5	36.0	36.1	36.5	37.0	12.9	13.4	13.4	13.9	14.4
	12H	36.0	36.4	36.5	36.9	37.5	13.1	13.5	13.6	14.0	14.6
12H	4H	33.6	34.2	34.1	34.7	35.2	12.3	12.9	12.8	13.4	13.9
	6H	35.0	35.5	35.5	35.9	36.5	12.7	13.2	13.2	13.7	14.2
	8H	35.6	36.0	36.1	36.5	37.1	12.9	13.3	13.4	13.8	14.4

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0