Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

SR3Mx 25L 35HK XW xx xx RDD3F 25L 35HK XW MW NL

Nom. 3" Round Deep Downlight A-Spec, Xtra Wide Beam

Test Number

SP-01407_3

Test Date

9/19/2022

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

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Summary of Results

Power

Input Watts	26.4 W

Lumen Output

Output Lumens	2016
Efficacy	76.37 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.01
Two luminaires, plane 90°	1
Four luminaires	0.94

Full Beam Angle

0° - 180°	65°
90° - 270°	65°

IES File Header Contents

Keyword	Value
TEST	SP-01407_3
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/19/2022
ISSUEDATE	10/25/2022
LUMCAT	SR3Mx 25L 35HK XW xx xx RDD3F 25L 35HK XW MW NL
LUMINAIRE	Nom. 3" Round Deep Downlight A-Spec, Xtra Wide Beam
OTHER	Matte White Trim, No lens
OTHER	65 Degree Beam Angle
LAMP	N/A, 19mm LES
LAMPCAT	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	This report prepared by Spectrum Lighting
_CRI	90

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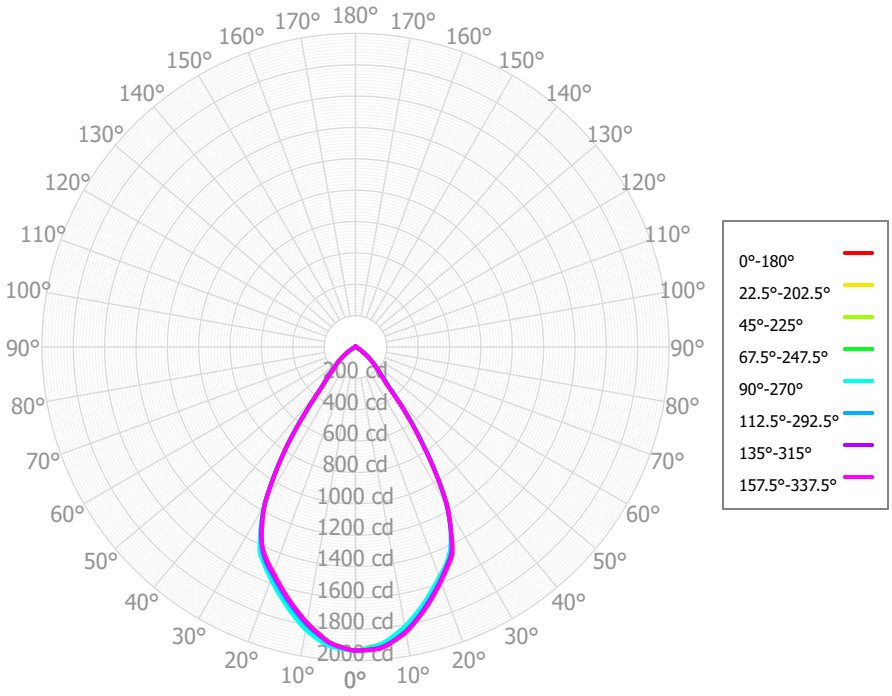
Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture
0.00° - 10.00°	181.41	9.00%
10.00° - 20.00°	475.20	23.57%
20.00° - 30.00°	642.52	31.87%
30.00° - 40.00°	451.92	22.42%
40.00° - 50.00°	161.94	8.03%
50.00° - 60.00°	66.63	3.30%
60.00° - 70.00°	16.14	0.80%
70.00° - 80.00°	4.66	0.23%
80.00° - 90.00°	2.60	0.13%
0.00° - 90.00°	2003.02	99.35%

Zone	Lumens	% Fixture
90.00° - 100.00°	2.12	0.10%
100.00° - 110.00°	2.10	0.10%
100.00° - 120.00°	4.10	0.20%
120.00° - 130.00°	1.86	0.09%
130.00° - 140.00°	1.67	0.08%
140.00° - 150.00°	1.40	0.07%
150.00° - 160.00°	1.04	0.05%
160.00° - 170.00°	0.66	0.03%
170.00° - 180.00°	0.23	0.01%
0.00° - 180.00°	2016.09	100.00%

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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°	1936.67	1936.67	1936.67	1936.67	1936.67	1936.67	1936.67	1936.67	1936.67	1936.67	1936.67	1936.67	1936.67	1936.67	1936.67	1936.67	1936.67
2.50°	1935.12	1930.40	1925.46	1919.38	1923.27	1921.85	1919.35	1918.90	1917.44	1916.73	1916.73	1918.08	1928.75	1933.46	1932.68	1934.73	1935.12
5.00°	1925.33	1919.60	1912.65	1900.77	1901.88	1897.08	1893.10	1894.05	1890.21	1892.29	1895.48	1898.75	1914.63	1922.06	1922.34	1927.09	1925.33
7.50°	1887.56	1880.78	1872.34	1861.61	1857.88	1850.66	1844.09	1840.21	1838.44	1841.54	1848.34	1858.39	1876.95	1886.52	1888.03	1890.35	1887.56
10.00°	1846.91	1838.90	1831.31	1817.04	1809.44	1799.84	1790.55	1784.95	1785.25	1789.13	1801.04	1812.71	1830.80	1840.96	1844.02	1848.84	1846.91
12.50°	1786.56	1780.20	1772.17	1760.04	1750.53	1739.89	1727.39	1722.99	1722.16	1725.80	1736.36	1749.96	1770.81	1780.52	1785.53	1789.23	1786.56
15.00°	1724.31	1719.93	1712.70	1700.02	1689.54	1678.25	1664.13	1660.63	1658.74	1662.07	1671.70	1686.76	1706.17	1714.29	1721.34	1726.99	1724.31
17.50°	1659.00	1657.04	1646.98	1635.95	1623.79	1613.32	1600.69	1596.52	1593.27	1595.95	1608.16	1622.18	1641.72	1648.59	1654.55	1660.15	1659.00
20.00°	1593.43	1593.92	1581.53	1570.98	1560.61	1550.54	1539.55	1533.59	1529.07	1531.23	1544.74	1559.24	1577.32	1583.08	1586.80	1592.68	1593.43
22.50°	1528.63	1528.81	1520.52	1509.11	1502.99	1491.84	1482.87	1475.62	1472.12	1474.41	1485.33	1500.94	1511.43	1515.57	1518.49	1525.80	1528.63
25.00°	1463.88	1463.55	1454.13	1447.90	1426.66	1414.85	1407.66	1406.04	1405.83	1407.67	1423.67	1426.80	1445.09	1447.35	1449.98	1459.00	1463.88
27.50°	1321.36	1320.18	1317.12	1312.68	1310.99	1305.15	1298.59	1291.84	1290.19	1290.27	1296.44	1309.09	1312.85	1315.30	1316.76	1319.86	1321.36
30.00°	1174.31	1171.83	1173.40	1163.10	1164.70	1160.08	1155.18	1158.25	1158.98	1157.91	1165.43	1165.85	1162.21	1161.45	1162.01	1172.48	1174.31
32.50°	951.07	950.80	956.82	956.59	957.82	955.29	952.57	952.78	952.96	952.43	957.29	956.96	957.09	953.79	950.28	950.74	951.07
35.00°	724.52	726.23	740.07	740.11	743.63	742.31	741.08	743.63	743.79	743.74	748.68	743.64	737.28	729.02	720.92	721.76	724.52
37.50°	512.81	516.60	521.55	532.54	515.79	515.87	514.67	521.87	520.13	520.68	531.65	519.66	533.27	526.28	517.35	512.90	512.81
40.00°	301.64	307.47	319.30	326.46	340.65	345.59	344.51	335.69	326.51	328.24	324.96	341.07	333.17	330.03	321.51	305.68	301.64
42.50°	244.66	248.57	257.81	253.65	261.19	262.68	263.63	262.74	259.56	260.79	264.63	268.77	255.25	247.64	241.68	243.39	244.66
45.00°	191.16	193.85	199.40	200.71	198.90	199.89	201.72	199.88	199.76	200.69	206.47	208.27	205.17	197.70	193.99	191.94	191.16
47.50°	155.82	157.44	164.19	164.02	166.01	167.61	168.28	168.13	167.63	169.47	173.54	173.73	168.37	159.89	157.22	155.09	155.82
50.00°	120.63	121.28	129.23	129.62	133.48	134.91	135.80	136.62	135.95	138.24	140.66	139.19	134.47	125.28	123.24	119.11	120.63
52.50°	90.38	91.31	96.07	99.36	101.53	101.59	104.71	105.83	105.90	106.99	108.37	104.64	102.91	95.90	92.11	89.64	90.38
55.00°	60.28	61.42	65.00	69.61	73.37	73.48	76.82	77.03	77.60	77.70	77.12	74.44	71.82	67.79	61.67	60.47	60.28
57.50°	42.87	45.10	47.13	50.03	51.22	52.43	53.35	53.54	55.38	55.03	55.34	53.01	51.08	47.34	43.32	43.75	42.87
60.00°	25.72	28.94	30.45	31.55	33.68	35.48	35.02	33.66	35.76	35.24	34.83	35.22	32.20	28.68	27.69	27.51	25.72
62.50°	19.03	20.86	20.52	22.34	22.99	23.96	23.41	23.18	24.50	24.83	24.36	24.33	22.07	19.75	19.11	20.08	19.03
65.00°	12.46	12.93	11.74	14.05	14.90	15.27	15.14	14.71	15.05	15.66	14.67	15.49	13.45	12.89	11.99	12.86	12.46
67.50°	9.93	9.33	9.28	10.06	10.56	10.15	11.17	11.17	11.18	10.22	10.77	10.44	10.16	9.53	9.05	9.70	9.93
70.00°	7.43	5.84	6.93	6.43	7.30	6.86	7.97	8.02	7.72	5.91	7.12	6.74	7.70	6.87	6.94	6.61	7.43
72.50°	5.62	4.77	5.22	5.39	5.53	5.75	5.71	5.76	5.45	4.97	5.11	5.40	5.83	4.84	5.40	5.18	5.62
75.00°	3.86	3.75	3.70	4.52	4.36	4.62	4.22	3.96	3.66	4.17	3.32	4.29	4.04	2.92	3.97	3.77	3.86
77.50°	3.24	3.51	3.17	3.80	3.95	3.48	3.65	3.17	3.17	3.75	2.89	3.57	3.33	2.88	3.58	3.18	3.24
80.00°	2.65	3.26	2.72	3.10	3.38	2.81	3.14	2.49	2.83	3.32	2.53	3.04	2.75	3.16	3.38	2.60	2.65
82.50°	2.51	2.90	2.62	2.97	2.60	2.65	2.71	2.08	2.85	2.85	2.54	2.83	2.44	2.78	2.67	2.51	2.51
85.00°	2.35	2.53	2.46	2.86	2.18	2.50	2.32	1.81	2.70	2.42	2.48	2.57	2.15	2.29	1.88	2.42	2.35
87.50°	1.87	2.14	2.13	2.43	2.19	2.36	1.96	1.83	2.16	2.07	2.11	2.25	2.15	2.02	1.75	2.03	1.87
90.00°	1.45	1.79	1.87	1.99	2.16	2.25	1.74	1.85	1.76	1.83	1.87	1.95	2.19	1.78	1.71	1.65	1.45
92.50°	1.74	1.79	1.84	2.18	2.09	2.15	1.66	1.87	1.72	1.88	2.28	1.70	2.22	1.99	1.62	1.72	1.74
95.00°	2.00	1.80	1.82	2.38	2.09	2.03	1.66	1.87	1.75	1.95	2.57	1.63	2.24	2.26	1.52	1.78	2.00
97.50°	1.96	1.76	1.83	2.42	2.16	1.90	1.74	1.86	1.93	2.08	2.34	1.84	1.96	2.41	1.67	1.69	1.96
100.00°	1.94	1.75	1.86	2.47	2.22	1.95	1.85	1.83	2.01	2.13	2.13	1.96	1.66	2.55	1.84	1.62	1.94

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Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	2397	2397	2397	2397	2340	2340	2340	2340	2233	2233	2233	2135	2135	2135	2045	2045	2045	2003
	1	2277	2218	2164	2117	2226	2173	2125	2082	2088	2050	2015	2011	1981	1953	1939	1916	1894	1876
	2	2155	2050	1964	1891	2108	2014	1935	1868	1946	1881	1825	1883	1830	1784	1825	1783	1745	1746
	3	2037	1898	1792	1707	1994	1869	1771	1692	1814	1731	1663	1762	1693	1635	1715	1657	1608	1624
	4	1924	1762	1644	1553	1886	1738	1628	1543	1692	1598	1523	1649	1569	1503	1610	1541	1484	1511
RCR	5	1819	1640	1515	1422	1784	1620	1503	1415	1581	1479	1401	1545	1457	1387	1512	1435	1374	1408
	6	1720	1530	1402	1310	1689	1513	1392	1304	1480	1374	1294	1450	1356	1284	1422	1339	1274	1315
	7	1629	1430	1302	1212	1600	1416	1294	1208	1388	1279	1200	1362	1265	1193	1338	1252	1185	1230
	8	1544	1341	1213	1125	1518	1328	1207	1123	1305	1195	1117	1282	1183	1111	1262	1172	1106	1153
	9	1465	1260	1134	1049	1441	1249	1129	1047	1229	1119	1042	1209	1110	1038	1191	1100	1034	1083
	10	1392	1187	1063	981	1371	1177	1059	979	1159	1051	976	1142	1043	973	1126	1035	969	1019

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	64.0 fc	7.0 ft
6.5 ft	45.8 fc	8.2 ft
7.5 ft	34.4 fc	9.5 ft
8.0 ft	30.3 fc	10.1 ft
10.0 ft	19.4 fc	12.6 ft
12.0 ft	13.4 fc	15.2 ft
14.0 ft	9.9 fc	17.7 ft
16.0 ft	7.6 fc	20.2 ft
20.0 ft	4.8 fc	25.3 ft
24.0 ft	3.4 fc	30.4 ft
28.0 ft	2.5 fc	35.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	424673	424673	424673
45.00°	59282	61837	61680
55.00°	23044	24849	28051
65.00°	6464	6093	7729
75.00°	3273	3139	3691
85.00°	5920	6199	5495

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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	14.9	16.0	15.3	16.3	16.6	16.1	17.2	16.5	17.5	17.8
	3H	15.0	15.9	15.4	16.2	16.6	16.1	17.1	16.5	17.4	17.8
	4H	14.9	15.8	15.4	16.2	16.6	16.1	17.0	16.5	17.3	17.7
	6H	14.9	15.7	15.3	16.1	16.5	16.1	16.8	16.5	17.2	17.6
	8H	14.9	15.6	15.4	16.0	16.5	16.0	16.8	16.5	17.2	17.6
	12H	14.9	15.6	15.4	16.0	16.5	16.0	16.7	16.5	17.1	17.6
4H	2H	14.8	15.6	15.2	16.0	16.4	16.0	16.8	16.4	17.2	17.6
	3H	14.9	15.6	15.3	16.0	16.4	16.0	16.7	16.5	17.2	17.6
	4H	14.9	15.5	15.3	15.9	16.4	16.0	16.6	16.5	17.1	17.5
	6H	14.9	15.4	15.4	15.9	16.4	16.0	16.5	16.5	17.0	17.5
	8H	14.9	15.4	15.4	15.8	16.3	16.0	16.5	16.5	17.0	17.5
	12H	14.9	15.4	15.4	15.9	16.4	16.0	16.5	16.5	17.0	17.4
8H	4H	14.8	15.2	15.2	15.7	16.2	15.9	16.4	16.4	16.8	17.3
	6H	14.8	15.2	15.3	15.7	16.2	15.9	16.3	16.4	16.8	17.3
	8H	14.9	15.2	15.4	15.8	16.3	15.9	16.3	16.5	16.8	17.3
	12H	15.0	15.3	15.5	15.8	16.4	16.0	16.3	16.6	16.8	17.4
12H	4H	14.7	15.1	15.2	15.6	16.1	15.8	16.3	16.3	16.8	17.3
	6H	14.8	15.1	15.3	15.6	16.2	15.9	16.2	16.4	16.7	17.3
	8H	14.9	15.2	15.4	15.7	16.3	15.9	16.2	16.5	16.7	17.3

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0

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