

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CL0916GV 55L 35K XX TF2 MWI MW

Nom 16" diam downlight with frosted (TF2) diffuser and matte white interior

Test Number

SP-01251

Test Date

6/16/2021

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

Summary of Results

Power

Input Watts	39.1 W
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Lumen Output

Output Lumens	4424
Efficacy	113.14 lm/W

Luminous Dimensions

0° - 180° Size	-1.33
90° - 270° Size	-1.33
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.34
Two luminaires, plane 90°	1.32
Four luminaires	1.45

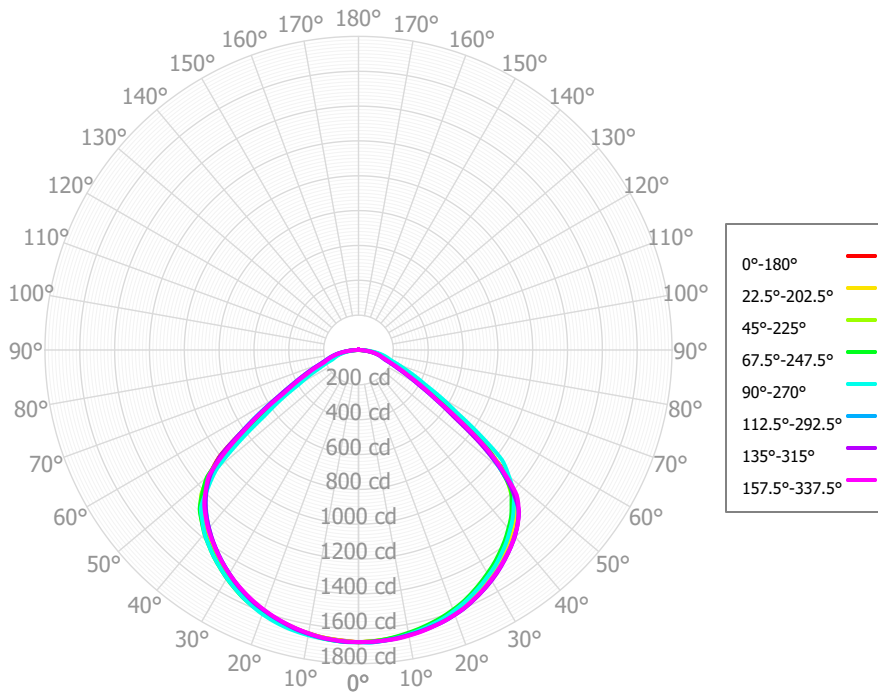
Full Beam Angle

0° - 180°	108°
90° - 270°	108°

IES File Header Contents

Keyword	Value
TEST	SP-01251
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/16/2021
ISSUEDATE	7/6/2021
LUMCAT	CL0916GV 55L 35K XX TF2 MWI MW
LUMINAIRE	Nom 16" diam downlight with frosted (TF2) diffuser and matte white interior
OTHER	Beam angle:
LAMPCAT	GV 55L
LAMP	N/A
OTHER	CCT Output Multipliers: 27K x 0.97, 30K x 0.99, 40K x 1.03
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	80+
_CCTMULT	27K x 0.97, 30K x 0.99, 40K x 1.03
_LAMPMULT	15L x 0.27, 27L x 0.47, 37L x 0.68

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	161.52	3.65%	90.00° - 100.00°	2.55	0.06%
10.00° - 20.00°	461.57	10.43%	100.00° - 110.00°	1.73	0.04%
20.00° - 30.00°	718.18	16.23%	100.00° - 120.00°	3.50	0.08%
30.00° - 40.00°	899.81	20.34%	120.00° - 130.00°	1.63	0.04%
40.00° - 50.00°	969.69	21.92%	130.00° - 140.00°	1.50	0.03%
50.00° - 60.00°	683.83	15.46%	140.00° - 150.00°	1.24	0.03%
60.00° - 70.00°	308.12	6.97%	150.00° - 160.00°	0.89	0.02%
70.00° - 80.00°	155.55	3.52%	160.00° - 170.00°	0.56	0.01%
80.00° - 90.00°	53.52	1.21%	170.00° - 180.00°	0.20	0.00%
0.00° - 90.00°	4411.79	99.73%	0.00° - 180.00°	4423.86	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°	1677.20	1677.20	1677.20	1677.20	1677.20	1677.20	1677.20	1677.20	1677.20	1677.20	1677.20	1677.20	1677.20	1677.20	1677.20	1677.20	1677.20
2.50°	1675.24	1674.23	1674.23	1675.36	1679.65	1678.09	1676.94	1675.13	1672.15	1674.43	1673.85	1676.94	1678.22	1680.41	1677.76	1676.90	1675.24
5.00°	1672.49	1669.99	1669.25	1669.40	1675.11	1672.35	1671.42	1670.37	1667.55	1668.83	1669.03	1673.63	1673.47	1675.62	1674.21	1675.21	1672.49
7.50°	1667.71	1664.42	1662.65	1659.83	1667.51	1665.35	1664.81	1663.10	1661.93	1661.68	1662.77	1666.89	1668.33	1670.02	1669.64	1672.86	1667.71
10.00°	1660.22	1655.95	1653.38	1648.80	1657.35	1653.96	1654.44	1651.43	1652.01	1652.33	1654.28	1657.79	1662.82	1661.70	1662.61	1665.69	1660.22
12.50°	1651.09	1646.43	1641.94	1636.60	1645.60	1641.48	1643.42	1638.47	1640.40	1641.41	1645.11	1648.39	1654.73	1653.17	1654.48	1657.16	1651.09
15.00°	1640.16	1634.07	1627.60	1622.18	1631.61	1626.09	1626.60	1623.65	1626.34	1628.65	1633.45	1638.83	1644.77	1643.46	1644.16	1645.46	1640.16
17.50°	1626.42	1620.92	1611.24	1606.30	1616.50	1609.50	1609.16	1606.58	1611.50	1613.85	1621.24	1625.24	1630.47	1633.58	1632.45	1633.12	1626.42
20.00°	1610.17	1602.46	1592.61	1587.03	1596.46	1590.32	1589.37	1586.85	1593.01	1597.12	1604.62	1609.80	1613.55	1616.97	1618.54	1616.16	1610.17
22.50°	1589.66	1582.86	1570.93	1565.93	1574.42	1569.00	1569.46	1564.57	1573.67	1578.05	1587.29	1589.95	1591.83	1599.89	1600.79	1598.59	1589.66
25.00°	1565.97	1558.21	1546.47	1539.60	1548.97	1543.99	1542.32	1539.82	1548.86	1557.14	1561.79	1568.51	1567.79	1576.31	1578.11	1574.98	1565.97
27.50°	1540.45	1532.84	1519.16	1511.00	1522.46	1515.73	1514.91	1512.61	1523.17	1530.52	1535.49	1541.35	1540.37	1552.15	1554.03	1550.90	1540.45
30.00°	1513.84	1503.93	1489.72	1480.97	1493.77	1482.92	1482.67	1483.40	1493.42	1500.25	1506.03	1512.64	1511.65	1523.67	1528.43	1523.21	1513.84
32.50°	1483.98	1474.73	1457.65	1450.44	1464.56	1449.36	1449.99	1450.90	1463.25	1466.69	1476.42	1480.89	1480.24	1494.73	1499.27	1495.33	1483.98
35.00°	1452.55	1441.87	1423.94	1415.51	1429.53	1414.90	1413.25	1416.25	1427.87	1431.43	1442.35	1448.52	1448.01	1463.56	1466.99	1463.88	1452.55
37.50°	1416.81	1408.75	1388.28	1379.47	1393.52	1376.95	1375.95	1379.70	1392.24	1394.56	1408.08	1412.49	1411.98	1431.10	1432.80	1431.97	1416.81
40.00°	1379.39	1368.78	1351.64	1338.69	1352.39	1335.67	1335.27	1342.15	1354.63	1357.00	1370.56	1375.97	1375.09	1393.93	1397.24	1393.93	1379.39
42.50°	1335.15	1327.96	1306.64	1297.03	1310.75	1290.21	1292.70	1298.59	1316.45	1314.69	1331.68	1332.95	1327.53	1352.11	1352.40	1354.05	1335.15
45.00°	1288.87	1276.17	1258.37	1242.70	1260.33	1241.50	1242.22	1252.43	1267.59	1270.84	1281.54	1289.45	1278.36	1297.32	1302.20	1300.94	1288.87
47.50°	1202.41	1215.53	1177.68	1186.86	1209.37	1180.63	1185.05	1189.19	1213.94	1202.16	1222.93	1214.16	1173.69	1212.80	1200.73	1231.73	1202.41
50.00°	1107.10	1086.97	1087.08	1066.12	1127.37	1111.84	1107.10	1120.21	1117.68	1127.46	1116.73	1135.32	1063.65	1063.47	1074.80	1085.19	1107.10
52.50°	913.45	946.00	906.83	941.58	1039.82	980.77	998.99	967.93	1006.24	959.88	992.89	955.16	863.44	894.02	883.68	925.02	913.45
55.00°	705.12	742.68	705.97	753.30	851.44	817.15	815.94	794.67	810.06	775.74	799.17	776.43	660.65	688.53	668.18	717.29	705.12
57.50°	561.40	560.93	571.18	567.90	669.88	667.01	652.16	641.18	628.94	621.24	622.66	614.80	527.89	522.03	523.67	536.20	561.40
60.00°	423.79	457.12	446.80	472.54	547.70	522.44	526.18	491.39	508.44	470.06	497.12	462.27	398.36	411.94	399.37	428.39	423.79
62.50°	346.54	362.78	368.27	379.71	432.99	427.57	421.04	406.18	399.67	386.06	386.83	375.89	322.51	321.51	319.32	334.03	346.54
65.00°	271.90	295.40	294.02	312.64	359.46	349.18	348.70	328.69	326.86	305.58	312.84	294.04	249.69	254.22	248.86	268.63	271.90
67.50°	222.01	236.15	241.06	249.42	290.24	286.83	285.09	269.40	261.81	248.53	247.98	234.09	202.04	202.25	202.92	213.55	222.01
70.00°	173.96	194.94	189.32	211.23	238.55	228.45	232.60	211.20	215.19	193.18	200.35	182.31	159.16	165.39	160.57	176.22	173.96
72.50°	155.53	162.39	169.76	176.48	194.28	197.94	194.57	187.46	177.64	171.14	164.25	159.19	141.74	140.72	142.48	147.04	155.53
75.00°	136.74	145.15	149.91	157.01	172.53	172.26	172.03	163.87	157.11	149.12	145.65	137.08	123.77	125.85	126.41	129.52	136.74
77.50°	115.04	124.33	125.40	134.94	149.20	146.86	146.99	139.25	134.40	127.35	125.21	117.79	103.68	106.46	105.88	109.92	115.04
80.00°	92.48	98.28	100.24	104.39	122.19	121.48	119.78	113.98	108.31	104.52	102.51	96.87	82.18	84.12	85.11	87.89	92.48
82.50°	65.40	71.48	69.42	73.68	93.64	89.75	89.16	82.16	80.41	75.08	78.05	72.42	56.49	59.90	59.94	63.77	65.40
85.00°	39.57	43.78	40.19	42.60	62.14	57.66	56.12	51.26	50.22	46.73	51.78	47.79	33.06	34.66	35.30	37.64	39.57
87.50°	18.68	22.86	19.72	18.32	34.78	31.33	30.41	25.97	26.63	23.08	29.20	22.85	14.83	18.10	17.65	19.12	18.68
90.00°	2.94	8.54	3.26	7.91	13.82	6.15	9.07	4.93	9.83	4.68	9.73	6.89	2.82	5.28	1.95	6.66	2.94
92.50°	2.28	1.97	2.42	1.45	1.91	3.48	2.03	2.89	1.83	2.92	1.64	3.62	2.17	1.84	1.63	1.63	2.28
95.00°	1.77	1.71	1.82	1.45	1.38	1.08	1.78	1.32	1.43	1.60	1.37	1.73	1.91	1.53	1.41	1.41	1.77
97.50°	1.60	1.55	1.96	1.45	1.16	1.26	1.68	1.29	1.30	1.40	1.34	1.44	2.22	1.41	1.67	1.52	1.60
100.00°	1.44	1.45	2.07	1.42	1.28	1.40	1.63	1.33	1.35	1.31	1.46	1.51	2.29	1.35	1.88	1.80	1.44
102.50°	1.33	1.63	2.11	1.57	1.26	1.25	1.49	1.58	1.28	1.42	1.62	1.90	2.05	1.41	1.94	1.85	1.33
105.00°	1.41	1.95	2.06	1.92	1.12	1.16	1.31	1.70	1.15	1.48	1.81	1.87	1.90	1.50	2.00	1.80	1.41
107.50°	1.79	2.20	1.84	2.06	1.16	1.38	1.26	1.53	1.33	1.46	1.69	1.52	1.85	1.66	2.03	1.89	1.79
110.00°	2.04	2.42	1.85	2.03	1.31	1.55	1.25	1.45	1.66	1.48	1.44	1.35	1.83	1.84	2.05	2.04	2.04
112.50°	2.12	2.05	2.19	1.87	1.61	1.57	1.50	1.54	1.68	1.57	1.33	1.30	1.83	1.80	2.06	2.04	2.12

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	5264	5264	5264	5264	5140	5140	5140	5140	4909	4909	4909	4697	4697	4697	4503	4503	4412
	1	4867	4680	4512	4361	4748	4579	4427	4289	4391	4267	4153	4219	4118	4024	4059	3979	3895
	2	4470	4141	3870	3642	4356	4058	3809	3598	3902	3693	3513	3759	3585	3432	3626	3483	3407
	3	4104	3677	3347	3084	3998	3608	3302	3056	3478	3216	3001	3357	3135	2948	3245	3058	2991
	4	3776	3283	2922	2646	3677	3224	2888	2627	3115	2822	2591	3013	2760	2555	2918	2700	2642
	5	3482	2947	2573	2297	3391	2898	2547	2284	2805	2496	2259	2718	2447	2234	2637	2400	2350
	6	3221	2661	2285	2015	3138	2619	2264	2006	2540	2224	1988	2466	2185	1970	2397	2148	2104
	7	2989	2416	2045	1784	2914	2380	2028	1778	2313	1995	1764	2249	1964	1751	2190	1934	1896
	8	2782	2206	1843	1593	2714	2175	1829	1588	2117	1802	1578	2062	1777	1568	2010	1752	1719
	9	2599	2024	1672	1434	2537	1997	1660	1430	1947	1638	1422	1899	1617	1414	1854	1596	1567
	10	2435	1866	1525	1299	2379	1843	1516	1296	1799	1498	1290	1758	1480	1284	1718	1462	1437

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	55.4 fc	15.3 ft
6.5 ft	39.7 fc	18.1 ft
7.5 ft	29.8 fc	20.9 ft
8.0 ft	26.2 fc	22.3 ft
10.0 ft	16.8 fc	27.8 ft
12.0 ft	11.6 fc	33.4 ft
14.0 ft	8.6 fc	38.9 ft
16.0 ft	6.6 fc	44.5 ft
20.0 ft	4.2 fc	55.6 ft
24.0 ft	2.9 fc	66.8 ft
28.0 ft	2.1 fc	77.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	12995	12995	12995
45.00°	14122	13788	13809
55.00°	9525	9536	11501
65.00°	4985	5390	6590
75.00°	4093	4487	5165
85.00°	3518	3573	5524

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	17.6	19.1	18.0	19.5	19.8	18.6	20.1	18.9	20.4	20.7
	3H	18.3	19.7	18.7	20.0	20.4	19.3	20.6	19.7	21.0	21.3
	4H	18.7	19.9	19.1	20.3	20.7	19.6	20.9	20.0	21.2	21.6
	6H	19.0	20.2	19.4	20.5	20.9	19.9	21.1	20.3	21.5	21.9
	8H	19.1	20.2	19.5	20.6	21.0	20.0	21.2	20.5	21.6	22.0
	12H	19.2	20.3	19.6	20.6	21.1	20.1	21.2	20.6	21.6	22.0
4H	2H	17.8	19.1	18.2	19.5	19.8	18.8	20.1	19.2	20.5	20.9
	3H	18.7	19.8	19.2	20.2	20.6	19.7	20.8	20.1	21.2	21.6
	4H	19.2	20.2	19.7	20.6	21.0	20.2	21.1	20.6	21.6	22.0
	6H	19.7	20.5	20.2	21.0	21.4	20.7	21.5	21.1	21.9	22.4
	8H	19.9	20.7	20.3	21.1	21.6	20.8	21.6	21.3	22.1	22.5
	12H	20.0	20.7	20.5	21.2	21.7	21.0	21.7	21.5	22.2	22.6
8H	4H	19.4	20.2	19.9	20.6	21.1	20.4	21.1	20.8	21.6	22.1
	6H	20.0	20.6	20.5	21.1	21.6	21.0	21.6	21.5	22.1	22.6
	8H	20.3	20.8	20.8	21.4	21.8	21.2	21.8	21.8	22.3	22.8
	12H	20.5	21.0	21.0	21.5	22.0	21.5	22.0	22.0	22.5	23.1
12H	4H	19.4	20.1	19.9	20.6	21.1	20.4	21.1	20.9	21.6	22.0
	6H	20.1	20.6	20.6	21.1	21.7	21.0	21.6	21.6	22.1	22.6
	8H	20.3	20.9	20.9	21.4	21.9	21.4	21.9	21.9	22.4	22.9

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0