

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: STREETWORKS

Report Number: P158206

Luminaire Tested: **VST-F02-LED-E-U-SL2-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P158206
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33712)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: VST-F02-LED-E-U-SL2-7050
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 2 W/ SPILL LIGHT CONTROL
Light Source: (14) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5097.3 lumens
Efficiency: N/A
Efficacy: 92.7 lumens/watt
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')
IES Classification: Type II - Short - Non-Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 55
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT

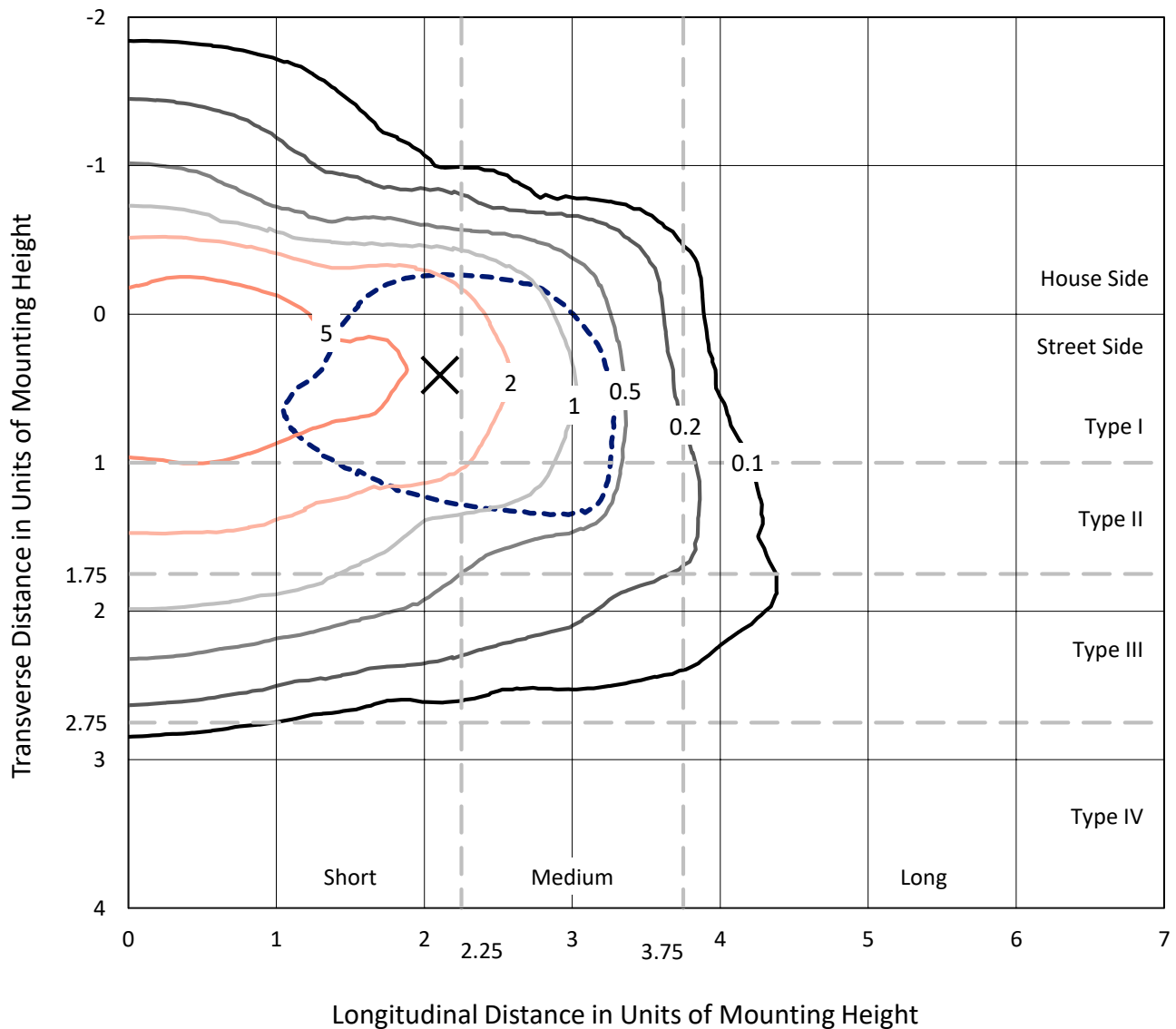


REPORT NUMBER: P158206

CATALOG NUMBER: VST-F02-LED-E-U-SL2-7050

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

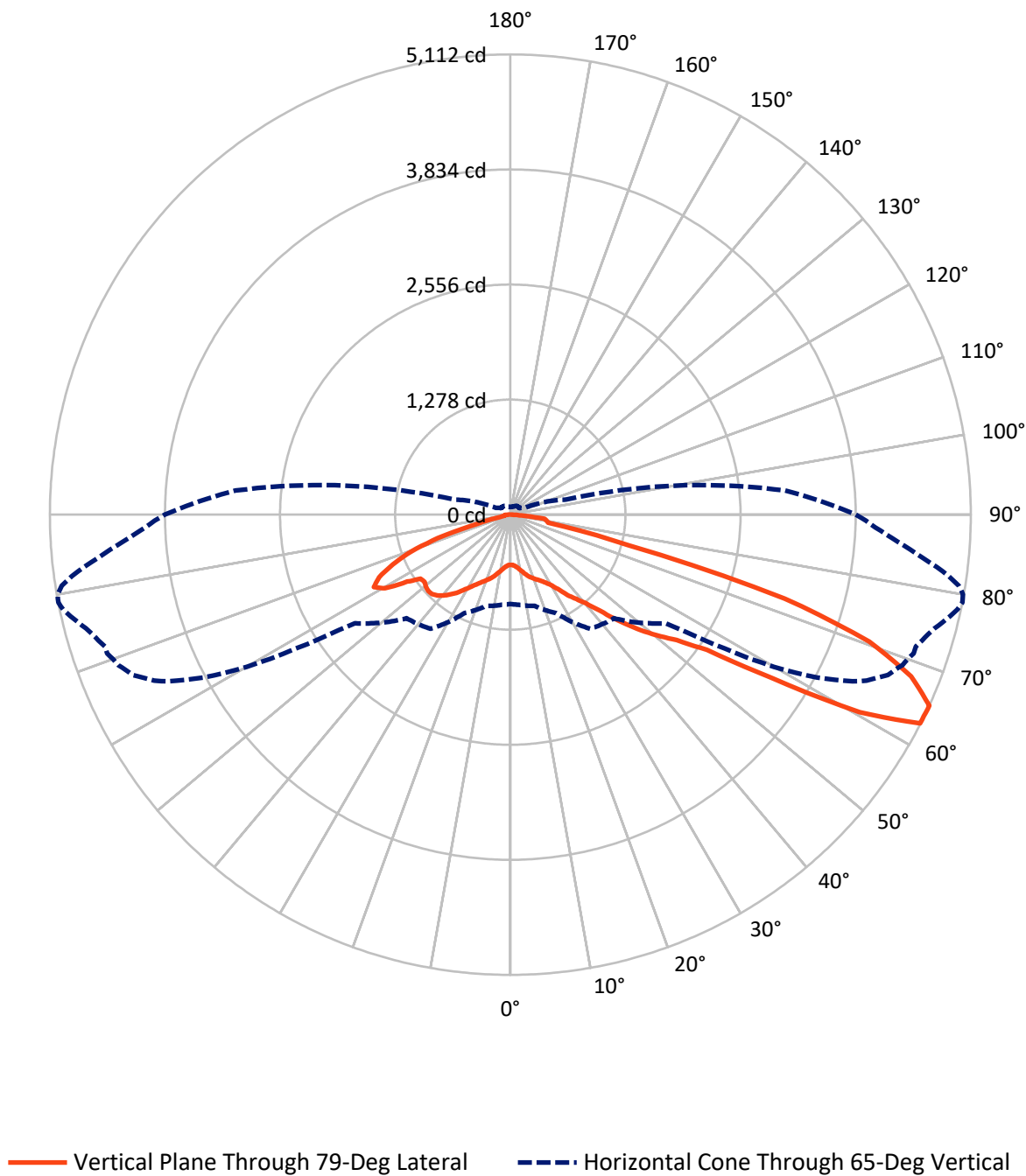


Based on 10 foot mounting height. Maximum calculated value = 7.2 fc
 Type II - Short - Non-Cutoff

REPORT NUMBER: P158206

CATALOG NUMBER: VST-F02-LED-E-U-SL2-7050

Luminous Intensity Polar Plot



REPORT NUMBER: P158206

CATALOG NUMBER: VST-F02-LED-E-U-SL2-7050

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1171.3	0.0	1171.3
	% Fixture	23.0	0.0	23.0
Street Side	Lumens	3926.0	0.0	3926.0
	% Fixture	77.0	0.0	77.0
Total	Lumens	5097.3	0.0	5097.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.2	1.1
10°-20°	179.2	3.5
20°-30°	308.9	6.1
30°-40°	506.0	9.9
40°-50°	847.4	16.6
50°-60°	1146.3	22.5
60°-70°	1411.7	27.7
70°-80°	546.4	10.7
80°-90°	96.1	1.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	5097.3	100.0
0°-180°	5097.3	100.0

Coefficient of Utilization



REPORT NUMBER: P158206

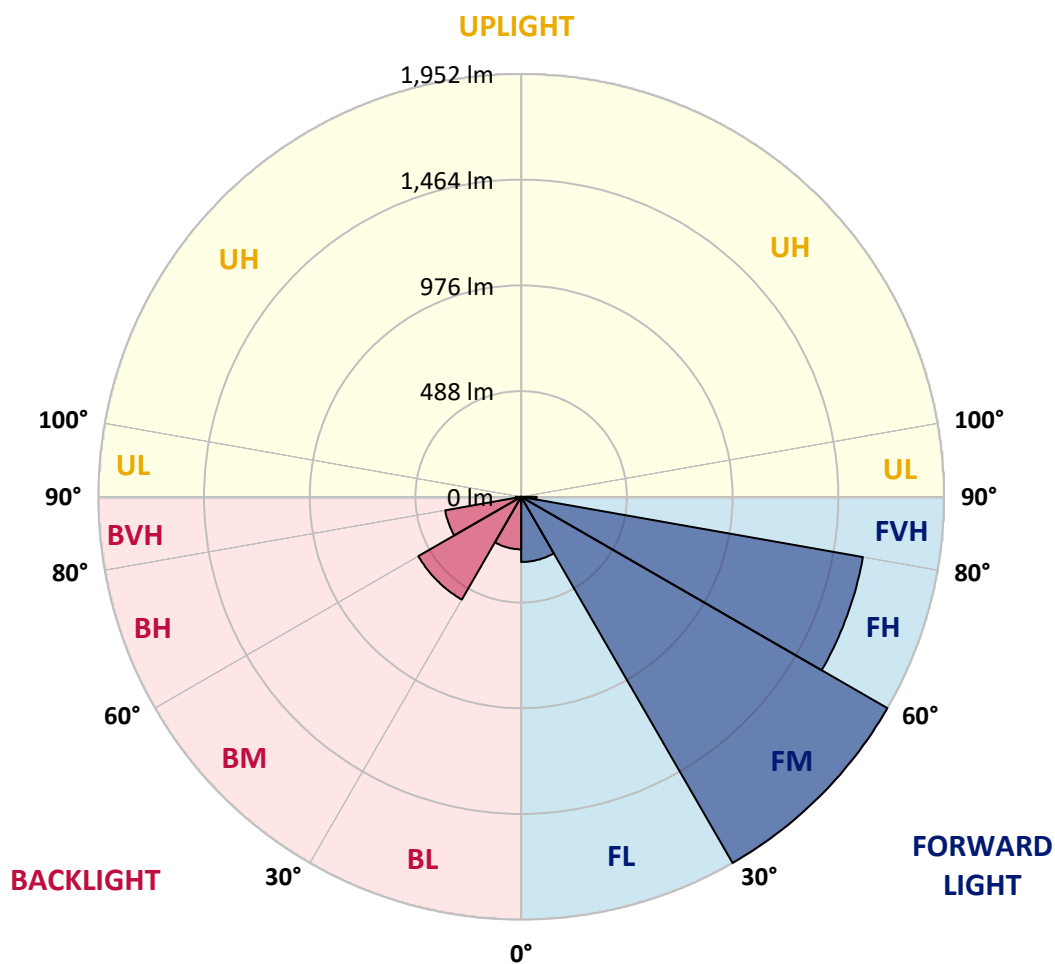
CATALOG NUMBER: VST-F02-LED-E-U-SL2-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	300.9	5.9			
FM	(30°-60°)	1952.1	38.3			
FH	(60°-80°)	1601.8	31.4			G1/1800
FVH	(80°-90°)	71.3	1.4			G1/100
BL	(0°-30°)	242.4	4.8	B1/500		
BM	(30°-60°)	547.7	10.7	B1/1000		
BH	(60°-80°)	356.3	7.0	B1/500		G1/500
BVH	(80°-90°)	24.8	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Short





REPORT NUMBER: P158206

CATALOG NUMBER: VST-F02-LED-E-U-SL2-7050

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	56°	57°	58°	59°
0°	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7
2.5°	558.7	557.0	558.7	560.1	561.1	562.4	562.1	561.8	561.4	561.8	561.8
5°	563.5	563.2	564.8	566.2	568.6	570.2	572.3	572.3	572.3	571.9	572.6
7.5°	578.7	578.4	580.1	581.5	583.4	586.9	589.6	590.9	590.6	590.6	590.6
10°	603.8	602.5	602.5	602.5	605.2	607.5	613.6	614.3	615.7	615.0	615.3
12.5°	628.2	628.6	627.5	626.5	626.8	631.6	640.4	642.1	642.4	643.4	644.1
15°	650.2	649.9	647.5	645.1	648.2	656.3	667.9	670.9	670.9	672.9	674.3
17.5°	670.6	669.8	665.5	661.4	664.4	678.4	696.3	698.3	701.4	702.4	703.7
20°	694.6	693.2	688.1	677.3	677.3	696.3	720.0	722.0	724.7	725.5	727.8
22.5°	728.2	724.7	713.9	694.3	688.9	710.9	740.0	741.0	743.0	745.7	747.8
25°	766.1	766.8	749.2	715.0	703.1	726.1	759.3	761.0	764.8	766.8	769.1
27.5°	805.4	806.4	786.8	744.1	724.1	747.1	785.4	787.4	791.8	794.2	797.9
30°	850.1	851.5	832.5	789.5	759.0	778.0	824.0	829.4	833.2	836.2	842.3
32.5°	957.5	949.4	936.2	890.5	842.3	841.0	886.4	892.5	897.5	904.0	909.8
35°	1092.7	1097.8	1104.6	1073.8	1031.4	1000.6	1004.3	1000.9	1005.7	1015.1	1020.9
37.5°	1199.8	1211.0	1240.4	1260.4	1258.7	1252.7	1195.7	1195.7	1198.8	1193.7	1193.0
40°	1283.8	1291.0	1351.3	1428.8	1494.2	1526.5	1481.3	1474.9	1478.3	1452.2	1453.3
42.5°	1327.2	1337.7	1424.5	1560.7	1690.4	1793.8	1779.9	1775.5	1765.3	1758.8	1754.8
45°	1349.2	1361.8	1465.1	1652.2	1841.2	2000.8	2072.6	2071.9	2062.8	2055.4	2051.9
47.5°	1338.1	1348.9	1459.0	1679.9	1920.5	2134.3	2293.2	2303.0	2300.3	2311.1	2315.6
50°	1264.9	1278.7	1389.2	1619.9	1887.3	2186.8	2446.0	2464.3	2489.0	2504.6	2525.3
52.5°	1198.8	1210.3	1309.9	1522.7	1778.2	2144.1	2538.2	2575.8	2609.7	2641.5	2666.3
55°	1129.7	1141.2	1228.6	1421.8	1668.1	2018.1	2580.2	2635.1	2687.9	2741.8	2791.3
57.5°	1103.6	1115.8	1180.8	1343.5	1577.9	1893.1	2600.9	2691.0	2777.0	2868.5	2963.4
60°	1171.3	1182.2	1231.6	1345.5	1509.1	1768.0	2559.2	2700.8	2848.9	2999.6	3145.4
62.5°	1150.7	1156.4	1218.1	1394.6	1596.9	1644.7	2378.6	2565.6	2780.8	3001.7	3225.0
65°	992.8	1004.0	1050.4	1205.6	1547.8	1628.1	2103.5	2291.5	2545.3	2806.6	3105.7
67.5°	712.2	696.7	732.5	868.4	1200.8	1625.3	1793.8	1933.0	2131.9	2332.1	2577.5
70°	323.6	316.1	344.3	451.7	724.4	1284.5	1516.6	1563.7	1637.6	1772.4	1938.1
72.5°	127.7	127.4	145.7	186.7	342.5	826.7	1275.4	1302.5	1328.6	1387.2	1458.7
75°	83.7	83.7	89.1	100.6	168.7	399.1	1078.9	1103.6	1143.5	1160.2	1190.6
77.5°	63.0	63.4	65.8	68.5	93.2	210.1	761.3	849.1	916.9	967.4	1004.3
80°	44.7	46.7	51.2	52.9	60.7	119.6	430.3	493.7	570.2	651.9	754.6
82.5°	33.5	35.9	43.4	45.4	48.1	68.1	194.2	220.3	257.2	333.4	479.5
85°	15.6	17.3	29.8	32.5	34.9	39.3	98.6	110.1	125.0	136.9	159.6
87.5°	2.4	1.7	5.1	7.1	11.2	11.5	33.9	40.3	43.7	52.5	54.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P158206

CATALOG NUMBER: VST-F02-LED-E-U-SL2-7050

CANDELA DISTRIBUTION (continued):

	60°	61°	62°	64°	65°	66°	67°	68°	69°	70°	71°
0°	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7
2.5°	561.8	562.1	562.4	561.8	562.1	562.1	561.4	561.1	561.1	561.1	561.4
5°	572.6	573.3	572.6	572.9	574.3	574.0	573.3	572.9	574.3	574.7	573.7
7.5°	592.0	592.3	590.9	592.6	593.3	593.6	593.6	594.3	594.3	595.3	594.3
10°	616.7	616.7	619.0	618.7	619.0	619.7	620.0	621.4	622.4	622.4	623.1
12.5°	645.1	645.5	647.8	648.2	649.6	649.9	651.9	650.6	653.9	653.9	655.0
15°	674.6	677.0	677.3	680.7	681.4	681.7	684.4	684.4	686.8	687.1	687.8
17.5°	703.7	705.8	707.2	709.9	712.2	713.2	714.2	716.3	718.0	718.7	720.4
20°	728.8	730.9	732.2	734.9	737.0	738.7	739.7	742.0	743.8	744.4	746.8
22.5°	749.8	751.2	753.5	757.3	758.0	760.0	763.0	764.8	765.4	767.5	770.2
25°	772.2	774.2	775.6	779.0	781.7	785.0	787.8	790.5	791.2	793.9	796.3
27.5°	802.0	804.1	804.4	811.1	813.9	818.6	821.6	825.7	827.8	830.2	834.9
30°	846.1	850.8	852.8	860.6	862.0	867.4	872.8	874.2	877.3	877.6	885.4
32.5°	913.5	920.3	923.0	931.1	933.1	938.2	941.3	948.4	948.7	952.1	953.8
35°	1024.0	1022.3	1032.8	1034.8	1040.9	1045.3	1048.3	1048.3	1054.8	1055.1	1057.1
37.5°	1174.7	1171.3	1174.0	1161.8	1164.9	1159.5	1158.5	1159.8	1157.1	1157.8	1157.5
40°	1416.0	1400.7	1384.8	1347.2	1339.1	1323.5	1311.3	1301.5	1292.0	1281.8	1275.0
42.5°	1718.5	1696.5	1672.8	1612.5	1584.4	1554.2	1524.7	1507.8	1473.9	1453.3	1442.0
45°	2035.7	2009.9	1976.8	1926.6	1886.6	1854.4	1800.5	1775.2	1722.6	1696.5	1661.3
47.5°	2295.6	2295.9	2269.1	2218.3	2175.6	2154.3	2120.8	2071.6	2012.0	1978.4	1915.7
50°	2522.9	2522.6	2520.9	2490.4	2460.6	2437.2	2407.7	2363.3	2314.6	2276.6	2204.8
52.5°	2691.0	2713.4	2722.9	2722.5	2718.8	2707.9	2685.5	2647.3	2597.8	2576.5	2519.2
55°	2829.9	2878.7	2904.1	2959.7	2964.8	2982.7	2963.1	2963.4	2934.2	2936.3	2918.0
57.5°	3040.3	3129.4	3180.6	3303.6	3365.3	3439.8	3426.6	3488.9	3511.6	3540.4	3578.7
60°	3279.2	3445.6	3566.9	3811.5	3911.1	4031.8	4098.2	4169.0	4220.5	4273.3	4312.3
62.5°	3449.9	3668.5	3867.7	4216.4	4345.9	4472.9	4556.6	4642.3	4700.3	4738.2	4766.3
65°	3380.2	3621.8	3857.2	4222.9	4363.8	4456.0	4555.6	4605.1	4663.0	4694.5	4734.8
67.5°	2872.3	3114.5	3367.0	3798.3	3945.7	4073.1	4150.7	4214.7	4261.4	4301.5	4347.8
70°	2136.0	2401.0	2661.8	3134.9	3320.9	3504.8	3596.3	3675.7	3724.4	3764.8	3815.9
72.5°	1537.3	1703.3	1866.3	2395.9	2581.9	2819.8	2914.6	3002.7	3066.1	3064.0	3118.3
75°	1223.9	1291.3	1363.8	1637.2	1770.7	1971.3	2024.5	2074.0	2044.1	1986.9	1983.5
77.5°	1018.9	1046.6	1071.1	1156.7	1176.4	1224.2	1197.8	1170.3	1081.9	1007.3	968.0
80°	827.1	882.0	917.9	978.9	1004.0	1018.2	1021.9	1012.4	979.9	934.9	863.0
82.5°	615.0	719.3	790.5	910.4	954.5	963.7	981.2	970.4	949.1	912.5	860.9
85°	180.2	204.0	233.8	317.2	371.7	418.1	465.5	488.9	503.5	483.2	430.0
87.5°	63.4	71.5	80.0	110.1	117.2	141.7	138.9	164.0	165.0	172.1	164.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P158206

CATALOG NUMBER: VST-F02-LED-E-U-SL2-7050

CANDELA DISTRIBUTION (continued):

	72°	73°	74°	75°	76°	77°	78°	79°	80°	81°	82°
0°	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7
2.5°	561.1	561.1	561.1	561.4	561.4	561.4	560.8	560.4	560.8	561.4	561.4
5°	574.3	574.7	575.3	574.0	574.3	575.3	574.7	574.3	574.7	575.3	574.7
7.5°	595.7	596.0	595.3	596.7	596.7	597.4	598.4	597.4	597.7	598.0	598.4
10°	623.5	623.8	624.5	625.5	625.8	626.5	627.2	628.2	628.2	627.5	629.2
12.5°	656.6	656.3	657.0	658.3	659.0	660.1	662.1	662.1	663.4	663.1	664.8
15°	689.2	690.9	691.2	693.6	694.6	696.3	698.6	700.0	700.0	702.1	702.7
17.5°	721.7	723.1	724.4	726.5	727.8	728.8	731.5	733.2	732.9	736.6	736.6
20°	746.8	749.5	751.2	752.5	754.9	756.6	758.6	760.7	762.0	764.4	765.1
22.5°	771.2	772.9	775.3	776.9	779.6	781.7	784.1	785.8	788.1	791.2	792.2
25°	798.3	801.0	803.7	806.1	808.1	810.5	814.6	818.3	821.6	824.4	825.4
27.5°	835.9	838.9	843.0	844.7	847.7	849.8	855.9	860.6	862.3	867.1	868.4
30°	886.7	890.1	894.2	896.2	901.6	904.3	910.8	915.8	917.6	923.3	924.3
32.5°	960.2	962.3	970.4	970.1	977.5	985.3	989.0	993.1	1000.6	1003.6	1004.6
35°	1062.2	1067.0	1072.7	1072.4	1081.9	1086.3	1093.7	1098.1	1103.6	1103.2	1109.0
37.5°	1160.8	1162.5	1164.5	1169.0	1175.8	1181.8	1184.6	1189.0	1193.0	1199.1	1206.6
40°	1268.2	1272.3	1272.7	1275.0	1278.4	1286.2	1291.3	1296.0	1309.9	1318.7	1323.1
42.5°	1429.2	1428.2	1421.4	1425.8	1427.8	1439.7	1443.4	1458.0	1473.6	1492.2	1497.3
45°	1636.2	1622.6	1618.6	1616.9	1627.7	1633.9	1649.1	1676.2	1692.5	1710.1	1718.5
47.5°	1891.0	1848.7	1828.7	1824.2	1835.5	1861.6	1866.6	1893.4	1914.7	1927.6	1936.1
50°	2146.1	2113.0	2071.0	2056.7	2053.7	2077.7	2083.4	2105.8	2127.5	2131.3	2126.8
52.5°	2466.7	2412.5	2343.0	2317.9	2297.9	2299.6	2304.4	2313.9	2327.8	2322.0	2310.1
55°	2876.6	2815.0	2780.8	2733.4	2703.2	2697.8	2677.1	2648.6	2647.6	2651.3	2615.8
57.5°	3559.4	3533.6	3548.2	3543.1	3513.4	3531.3	3438.1	3411.7	3390.7	3354.1	3321.2
60°	4346.9	4373.3	4403.5	4472.9	4469.8	4539.7	4474.9	4458.7	4439.0	4326.2	4271.0
62.5°	4815.5	4826.0	4870.3	4935.1	4998.8	5065.5	5095.7	5106.2	5065.2	4973.0	4857.8
65°	4733.8	4780.2	4823.2	4879.1	4944.5	5011.3	5075.0	5112.3	5102.8	5041.8	4915.1
67.5°	4362.8	4411.6	4474.6	4533.2	4603.7	4661.6	4731.4	4799.9	4801.9	4771.4	4683.3
70°	3821.3	3877.9	3943.0	3975.8	4052.1	4104.6	4162.5	4230.3	4252.3	4256.0	4153.4
72.5°	3106.7	3130.4	3162.3	3145.0	3160.3	3193.8	3178.2	3183.7	3100.0	3115.6	2988.8
75°	1892.0	1870.3	1774.1	1686.4	1579.3	1496.9	1516.6	1359.4	1204.6	1196.8	1084.9
77.5°	959.6	925.0	865.4	803.3	712.6	608.5	521.8	428.3	349.3	304.3	261.2
80°	817.3	792.8	760.0	715.0	648.8	571.9	481.5	410.3	344.3	275.5	220.6
82.5°	782.0	707.5	659.7	622.1	550.6	479.5	430.0	381.2	334.4	292.1	231.4
85°	388.0	343.3	290.4	257.5	198.2	155.2	145.4	119.6	111.5	86.0	72.5
87.5°	130.4	106.7	79.6	67.1	53.5	43.7	43.0	38.3	37.9	34.6	31.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P158206

CATALOG NUMBER: VST-F02-LED-E-U-SL2-7050

CANDELA DISTRIBUTION (continued):

	83°	84°	85°	86°	87°	88°	89°	90°	95°	105°	115°
0°	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7	557.7
2.5°	561.1	561.8	561.8	561.1	561.4	560.8	561.1	561.4	560.4	560.1	559.1
5°	575.0	574.7	574.7	575.0	576.0	576.4	574.7	575.3	575.7	574.0	570.2
7.5°	598.0	598.0	599.0	598.7	600.7	600.1	599.7	599.7	599.7	596.3	590.2
10°	629.2	629.2	630.2	631.6	631.9	631.3	631.3	631.6	633.3	626.5	617.0
12.5°	664.1	665.8	665.5	665.5	669.5	668.5	667.1	668.5	670.2	660.7	647.2
15°	703.1	704.1	704.8	707.2	706.4	708.8	709.5	708.8	710.5	698.3	675.6
17.5°	738.3	740.3	741.0	743.8	743.8	744.1	746.8	745.7	746.1	732.2	699.7
20°	767.5	769.5	770.5	773.5	774.2	775.6	776.6	777.3	779.0	762.4	719.3
22.5°	796.6	798.3	800.0	802.0	804.7	806.4	807.8	808.4	811.5	792.2	738.0
25°	829.1	832.9	834.5	837.9	840.7	843.4	845.4	845.7	850.8	826.7	753.2
27.5°	872.5	877.6	880.3	885.7	888.4	891.1	890.5	894.5	901.6	866.4	765.1
30°	929.4	935.8	937.6	943.0	947.3	950.1	953.1	956.5	961.3	910.4	770.8
32.5°	1008.7	1018.5	1020.9	1024.0	1030.4	1035.1	1037.2	1042.6	1043.9	952.1	769.1
35°	1117.4	1113.1	1124.6	1127.3	1136.5	1140.2	1142.5	1149.7	1144.2	997.5	758.0
37.5°	1215.7	1214.3	1225.6	1231.6	1243.5	1240.8	1246.6	1251.3	1232.0	1029.7	737.3
40°	1335.7	1334.0	1349.6	1351.6	1369.9	1365.8	1368.2	1371.9	1328.9	1052.0	699.7
42.5°	1503.1	1503.7	1520.3	1522.4	1524.7	1532.2	1520.0	1520.7	1431.9	1058.2	637.7
45°	1723.6	1735.5	1725.3	1725.7	1725.0	1710.8	1695.5	1677.5	1538.9	1037.2	557.7
47.5°	1937.5	1929.3	1916.4	1904.6	1894.7	1872.4	1850.0	1819.5	1631.5	987.4	468.6
50°	2120.4	2102.1	2090.6	2057.7	2034.4	2005.2	1974.0	1939.1	1707.4	915.5	385.3
52.5°	2290.5	2271.5	2228.5	2194.3	2160.7	2122.1	2085.8	2044.9	1774.4	833.5	321.5
55°	2573.1	2556.5	2513.5	2450.8	2409.4	2356.2	2308.4	2252.9	1910.3	767.1	279.5
57.5°	3230.8	3216.5	3126.1	3086.4	3031.9	2898.4	2878.7	2792.0	2274.5	759.3	254.8
60°	4156.7	4095.8	4020.5	3912.1	3784.4	3740.3	3642.1	3526.6	2860.7	780.7	234.8
62.5°	4725.3	4586.4	4475.9	4350.9	4233.4	4132.4	4025.0	3910.8	3160.6	752.5	210.1
65°	4768.0	4604.7	4458.7	4312.0	4179.8	4054.1	3949.7	3835.6	3063.0	646.8	177.9
67.5°	4532.9	4360.7	4201.5	4035.1	3901.6	3788.1	3655.3	3545.5	2787.9	503.5	148.1
70°	4048.0	3896.9	3759.7	3580.4	3469.6	3331.4	3247.0	3109.8	2430.1	343.3	122.3
72.5°	2915.6	2801.8	2757.1	2632.0	2487.0	2405.7	2366.7	2233.6	1795.8	213.1	100.0
75°	985.0	1013.1	948.7	850.1	898.3	824.0	854.2	790.8	759.7	122.3	84.0
77.5°	218.5	205.3	189.7	176.2	175.2	164.7	174.5	165.0	176.5	77.9	74.2
80°	172.4	136.2	115.9	105.7	100.3	97.3	94.9	92.2	84.0	66.4	68.5
82.5°	186.4	140.6	103.0	82.3	70.5	66.1	65.0	62.3	61.7	64.4	69.1
85°	59.6	49.8	42.4	40.0	37.0	35.2	34.6	33.5	40.7	70.1	66.4
87.5°	31.2	27.4	24.4	23.4	20.3	19.0	18.7	19.0	28.4	70.1	48.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P158206

CATALOG NUMBER: VST-F02-LED-E-U-SL2-7050

CANDELA DISTRIBUTION (continued):

	125°	135°	145°	155°	165°	175°	180°
0°	557.7	557.7	557.7	557.7	557.7	557.7	557.7
2.5°	558.1	557.7	557.0	556.7	556.4	554.6	556.0
5°	568.6	565.1	562.1	558.4	556.4	554.6	554.6
7.5°	584.5	575.0	567.2	558.7	553.0	548.6	547.9
10°	604.5	586.2	568.2	553.0	542.1	534.0	533.0
12.5°	623.5	595.7	567.2	542.1	525.2	513.7	513.0
15°	641.0	600.7	559.4	522.5	497.0	481.8	480.1
17.5°	655.0	597.7	541.8	495.1	460.5	442.5	441.5
20°	658.0	585.5	516.7	461.2	424.6	405.6	401.2
22.5°	655.3	563.5	485.5	423.9	381.8	362.9	360.5
25°	647.2	536.7	446.9	380.5	341.5	322.2	317.5
27.5°	632.6	505.2	405.2	338.5	299.9	281.2	276.5
30°	610.9	467.2	360.8	299.2	259.2	244.3	239.6
32.5°	580.7	421.1	317.2	258.8	225.7	213.8	211.7
35°	539.1	368.3	271.4	225.7	201.2	194.2	193.1
37.5°	485.9	315.5	233.1	202.0	184.3	179.9	179.2
40°	416.4	261.2	206.0	185.0	172.1	168.4	167.7
42.5°	344.9	220.6	186.0	171.4	160.9	157.6	156.5
45°	282.2	193.1	171.1	160.3	150.4	146.7	146.4
47.5°	235.5	177.2	158.9	150.1	140.3	135.9	136.2
50°	201.2	162.7	148.7	141.3	130.1	126.1	126.4
52.5°	177.9	148.1	139.3	130.8	121.3	117.2	117.2
55°	159.6	136.2	130.1	121.0	113.5	109.8	109.4
57.5°	144.7	126.7	121.3	113.8	106.4	102.0	102.0
60°	135.5	119.9	115.6	108.8	100.0	95.2	94.9
62.5°	130.1	117.9	114.2	104.7	94.9	90.1	89.1
65°	126.1	122.6	117.9	102.3	90.8	85.7	84.7
67.5°	126.4	133.9	127.1	103.7	89.5	82.0	80.6
70°	128.4	142.6	133.5	106.7	95.2	80.3	77.3
72.5°	118.3	129.1	120.3	101.6	92.8	77.3	73.5
75°	98.6	94.2	86.4	82.7	83.3	70.1	68.8
77.5°	80.0	70.1	62.7	65.8	70.1	60.0	58.6
80°	69.5	56.9	53.2	58.3	63.7	51.2	47.8
82.5°	65.0	48.1	45.7	60.7	66.7	44.0	38.6
85°	57.2	39.3	35.9	71.5	66.7	33.2	30.8
87.5°	38.3	23.4	22.4	52.5	45.7	23.0	18.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)