

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: P165022

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P165022
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33726)
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-HSS
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 2 W/ SPILL LIGHT CONTROL AND
HOUSE SIDE SHIELD
Light Source: (14) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2991.1 lumens
Efficiency: N/A
Efficacy: 54.4 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 1' x H: 0.1')
IES Classification: Type II - Short - Non-Cutoff
BUG Rating: B0 - 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



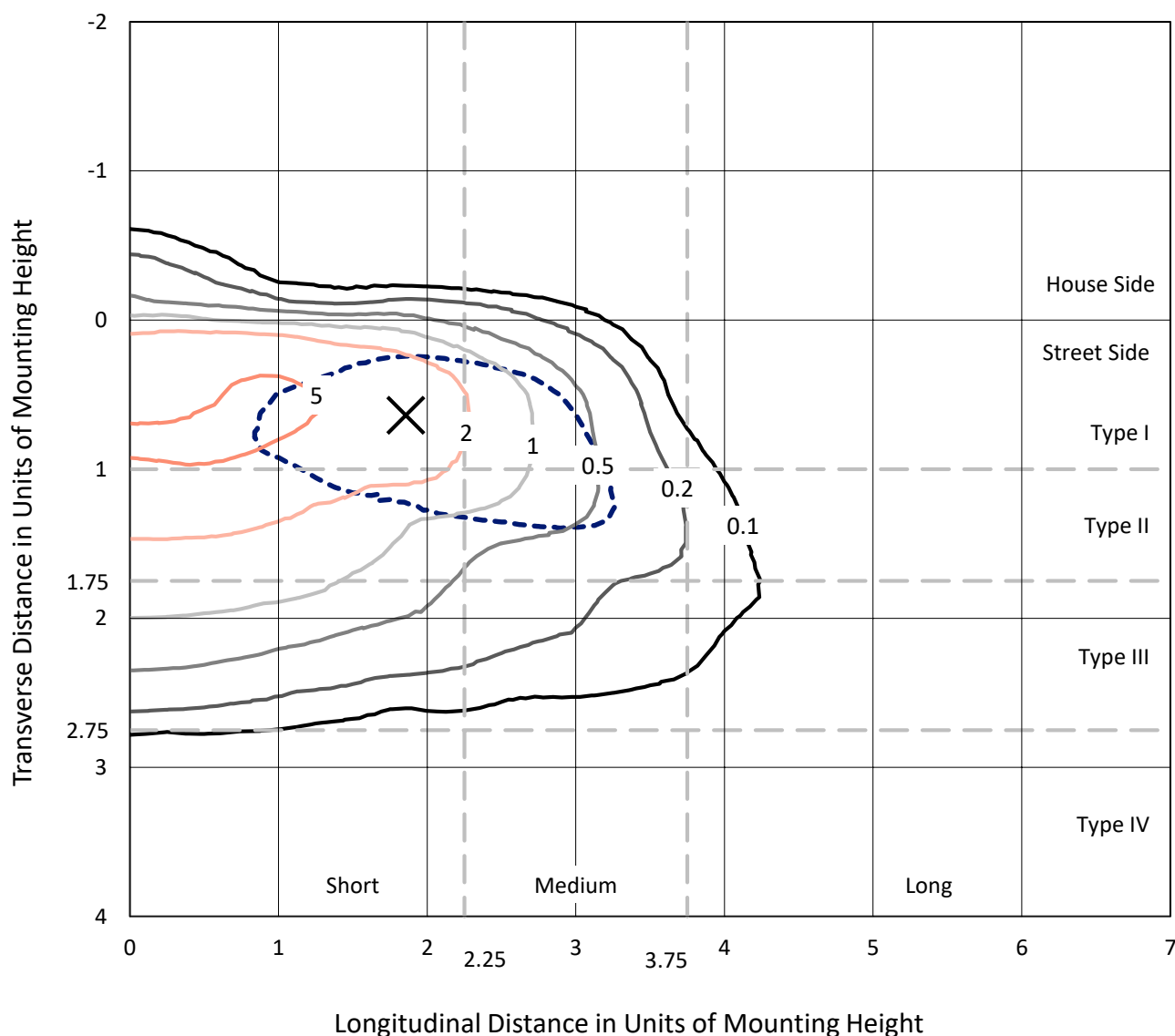
REPORT NUMBER: P165022

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

Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

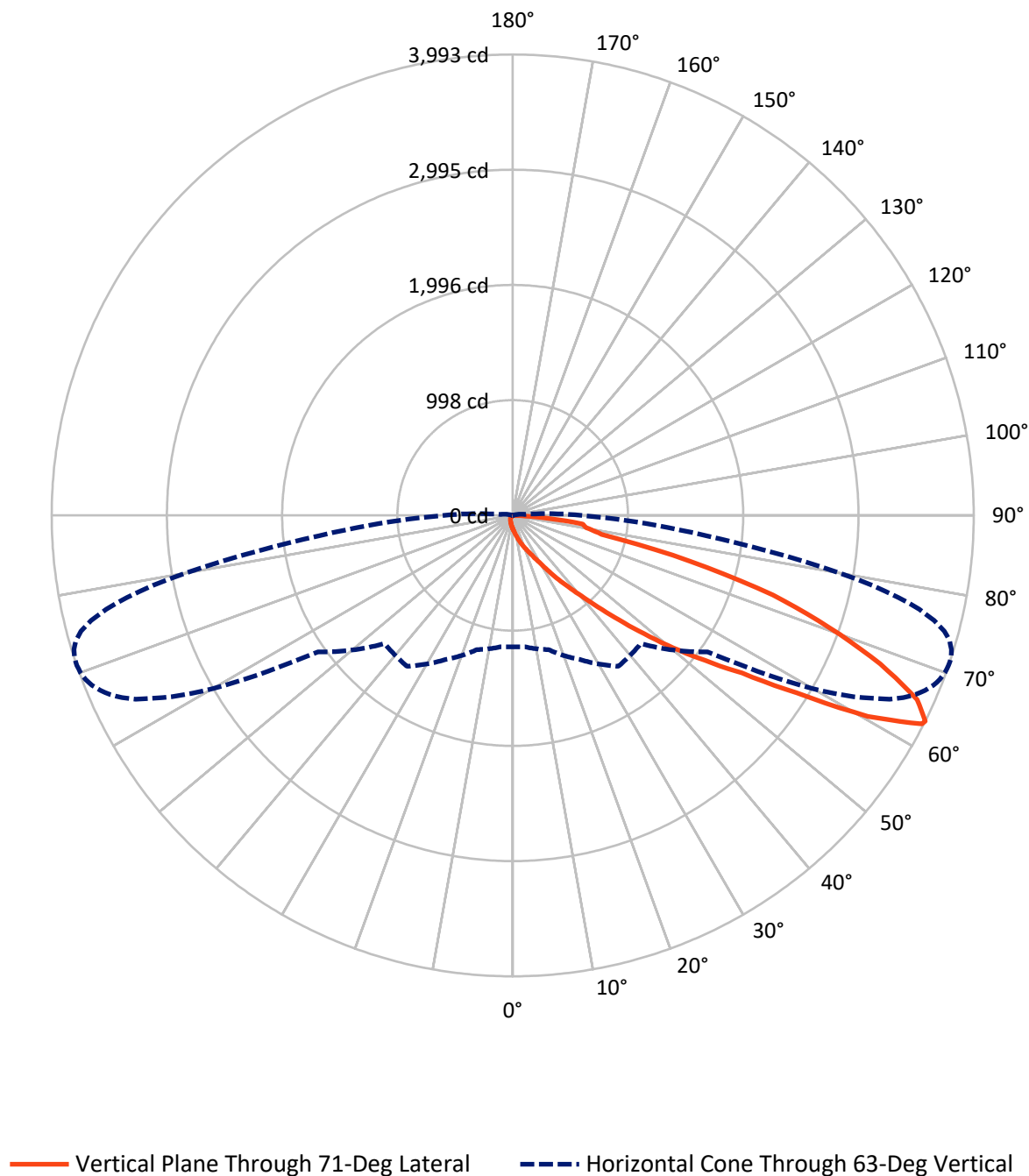


Based on 10 foot mounting height. Maximum calculated value = 6.3 fc
 Type II - Short - Non-Cutoff

REPORT NUMBER: P165022

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

Luminous Intensity Polar Plot



REPORT NUMBER: P165022

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

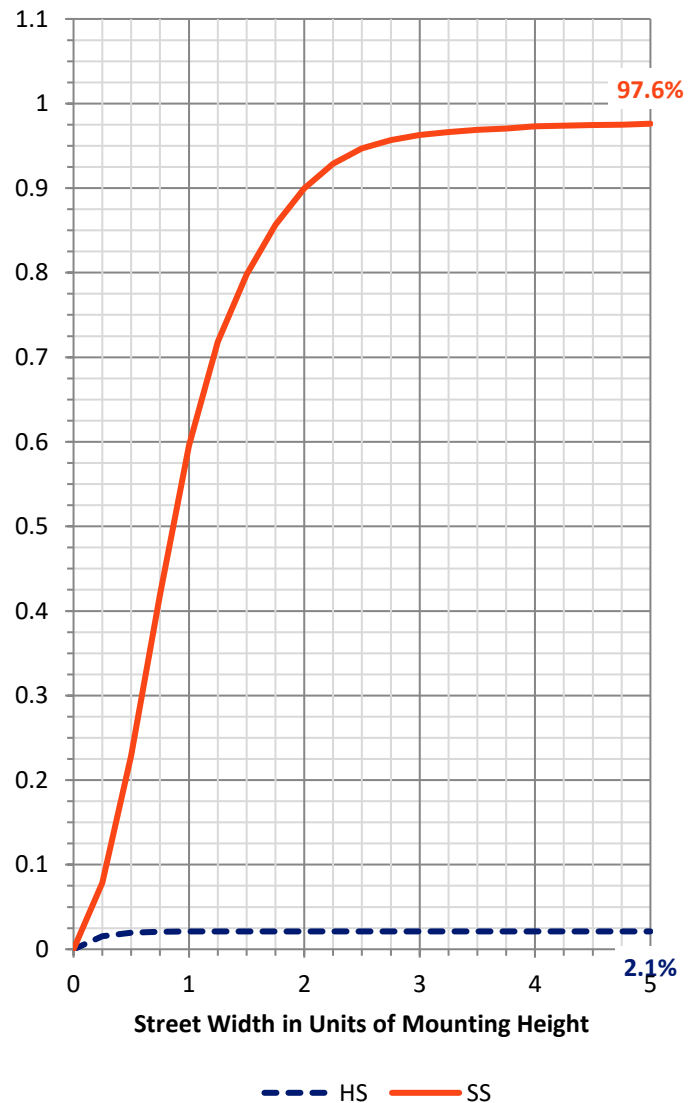
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	63.5	0.0	63.5
	% Fixture	2.1	0.0	2.1
Street Side	Lumens	2927.6	0.0	2927.6
	% Fixture	97.9	0.0	97.9
Total	Lumens	2991.1	0.0	2991.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	12.7	0.4
10°-20°	49.2	1.6
20°-30°	99.9	3.3
30°-40°	244.1	8.2
40°-50°	545.8	18.2
50°-60°	767.5	25.7
60°-70°	902.5	30.2
70°-80°	325.9	10.9
80°-90°	43.6	1.5
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°	2991.1	100.0
0°-180°	2991.1	100.0

Coefficient of Utilization



REPORT NUMBER: P165022

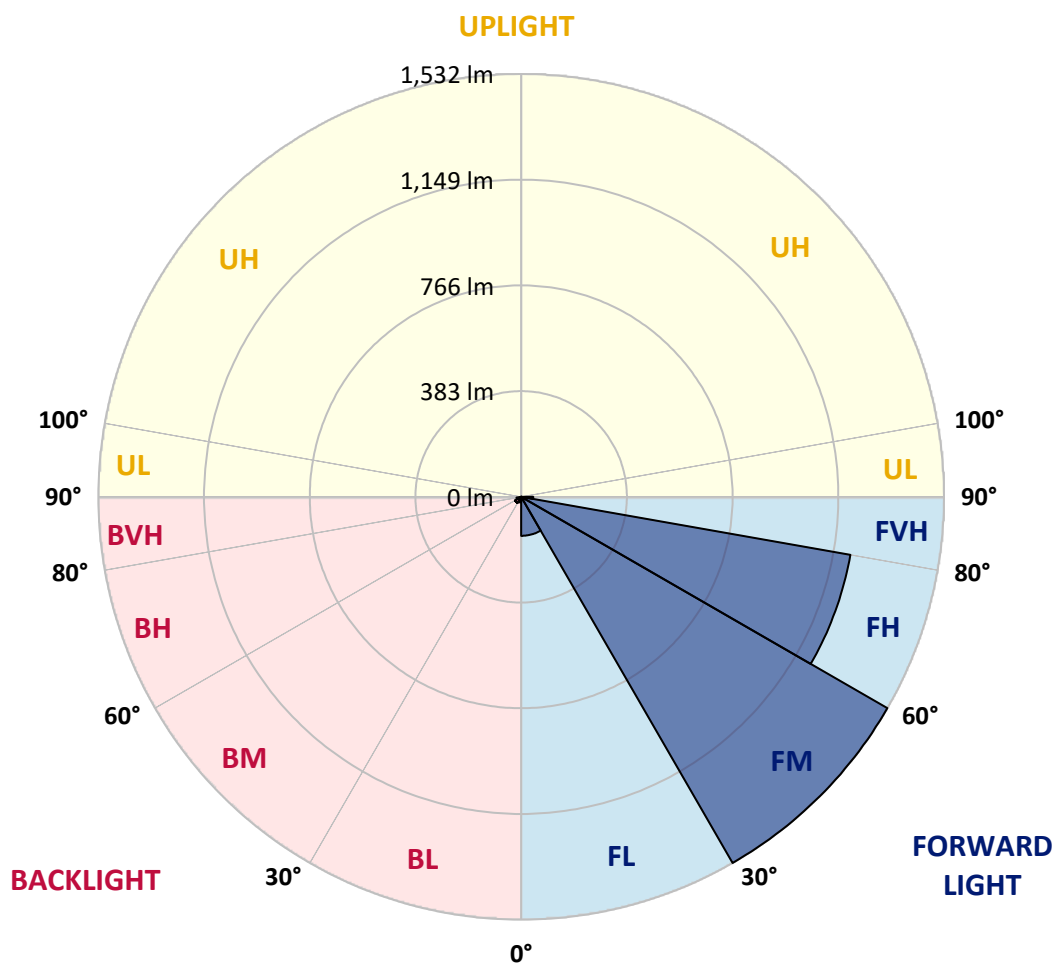
CATALOG NUMBER: VST-F02-LED-E-U-SL2-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	141.3	4.7			
FM	(30°-60°)	1531.8	51.2			
FH	(60°-80°)	1211.0	40.5			G1/1800
FVH	(80°-90°)	43.5	1.5			G1/100
BL	(0°-30°)	20.4	0.7	B0/110		
BM	(30°-60°)	25.6	0.9	B0/220		
BH	(60°-80°)	17.4	0.6	B0/110		G0/110
BVH	(80°-90°)	0.1	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G1

Type II Short





REPORT NUMBER: P165022

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

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	56°	57°	58°	59°
0°	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7
2.5°	150.1	151.7	150.6	147.9	144.7	140.3	136.5	136.5	136.0	134.3	134.9
5°	196.9	197.4	195.2	188.7	182.7	173.5	163.1	162.1	160.9	159.3	158.8
7.5°	242.5	244.7	242.5	235.4	223.5	209.3	193.0	191.4	188.2	188.2	186.0
10°	289.3	289.3	287.1	278.9	268.1	248.0	227.3	224.6	220.8	219.7	216.4
12.5°	322.4	322.4	321.4	317.0	308.3	290.4	265.4	262.6	257.8	256.1	252.3
15°	335.5	335.5	336.1	339.8	340.4	332.3	306.1	304.0	299.1	294.7	293.1
17.5°	343.6	343.1	343.1	348.5	358.3	363.8	346.9	344.8	339.3	337.1	331.7
20°	361.6	360.5	357.2	357.2	366.5	385.5	385.5	385.0	379.0	377.3	374.6
22.5°	388.3	387.2	377.3	369.2	373.6	397.5	419.8	418.7	416.5	414.4	412.7
25°	431.8	428.0	411.1	387.2	383.4	409.0	445.9	448.6	450.2	450.2	451.3
27.5°	497.6	492.7	462.8	418.2	401.3	427.4	474.7	480.2	485.0	486.1	491.0
30°	588.9	580.2	537.2	472.0	433.4	454.6	517.1	523.1	530.2	532.4	539.9
32.5°	739.0	734.1	692.8	594.9	512.2	507.9	576.4	584.0	593.3	597.1	606.3
35°	967.4	968.5	934.7	846.7	732.5	672.7	682.4	689.0	692.2	703.6	708.5
37.5°	1122.4	1125.1	1132.7	1097.9	1016.3	955.4	878.7	885.8	868.9	870.5	871.1
40°	1207.2	1215.8	1260.5	1294.2	1287.7	1252.3	1190.9	1194.7	1163.2	1156.1	1121.8
42.5°	1263.7	1275.1	1346.4	1450.8	1504.1	1536.2	1522.0	1520.4	1495.9	1486.7	1457.8
45°	1299.1	1309.4	1399.1	1553.0	1675.9	1769.5	1808.0	1812.4	1791.7	1782.5	1758.5
47.5°	1297.4	1309.4	1405.6	1591.1	1772.2	1921.7	2030.5	2035.9	2048.4	2040.2	2041.9
50°	1225.7	1237.1	1333.9	1526.3	1743.9	1991.3	2190.3	2207.7	2227.8	2241.4	2248.0
52.5°	1138.7	1146.8	1232.8	1415.5	1623.1	1962.5	2284.9	2314.9	2344.7	2370.3	2388.2
55°	1106.6	1115.8	1183.3	1335.0	1526.3	1841.8	2329.0	2373.0	2415.5	2457.3	2491.6
57.5°	1123.4	1132.1	1180.6	1296.9	1468.7	1714.5	2341.5	2410.0	2479.6	2547.5	2615.0
60°	1185.4	1194.7	1236.0	1332.2	1453.5	1641.1	2292.5	2406.2	2522.0	2640.5	2752.0
62.5°	1160.9	1164.7	1225.7	1394.2	1562.3	1578.5	2114.8	2273.5	2450.3	2633.0	2812.9
63°	1137.6	1141.9	1203.9	1377.4	1595.5	1569.3	2059.8	2227.3	2413.8	2610.7	2806.4
65°	1031.5	1032.1	1079.4	1216.4	1558.4	1585.6	1815.1	1975.0	2189.2	2425.2	2672.6
67.5°	770.0	766.2	811.9	916.3	1223.5	1586.2	1557.9	1647.7	1796.6	2006.0	2227.8
70°	273.0	267.0	340.9	485.6	762.4	1297.4	1338.8	1344.7	1386.1	1499.2	1638.4
72.5°	88.6	90.3	108.7	177.8	351.3	873.3	1212.1	1193.6	1182.7	1182.2	1200.7
75°	35.3	35.9	43.5	78.8	157.7	420.9	1061.5	1071.8	1075.6	1081.0	1087.0
77.5°	16.9	18.5	24.5	44.0	78.3	208.3	759.7	847.2	897.2	935.8	959.2
80°	6.0	7.1	13.6	27.2	36.4	95.7	400.2	482.9	556.3	650.9	732.5
82.5°	0.0	0.0	2.7	19.0	20.1	38.6	164.2	192.5	220.2	285.5	366.5
85°	0.0	0.0	0.0	5.5	6.0	6.5	55.5	66.9	75.1	87.5	101.2
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.6	3.2	8.2	12.5
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: P165022

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

CANDELA DISTRIBUTION (continued):

	60°	61°	62°	64°	65°	66°	67°	68°	69°	70°	71°
0°	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7
2.5°	133.7	133.3	133.3	132.2	131.6	130.5	130.0	128.3	127.8	127.8	127.8
5°	158.2	156.1	155.0	152.3	150.6	150.1	147.4	146.3	144.7	145.2	142.4
7.5°	185.4	181.6	180.0	176.2	175.1	171.3	170.2	167.5	165.8	162.6	161.5
10°	215.3	210.4	207.7	201.7	200.1	197.4	194.2	190.9	188.2	184.9	183.2
12.5°	249.6	245.2	243.1	234.9	231.1	227.3	223.0	218.6	214.3	211.6	207.7
15°	289.8	282.8	280.6	273.0	266.5	261.5	255.6	250.1	246.8	241.4	237.6
17.5°	329.5	322.4	320.8	309.4	302.3	299.1	292.6	285.5	279.5	274.1	268.1
20°	369.2	364.3	359.9	349.1	341.5	336.1	327.4	320.3	315.4	307.8	300.2
22.5°	409.0	404.0	400.8	389.3	382.3	374.6	367.1	359.5	352.4	343.1	334.4
25°	449.7	446.5	444.8	434.5	428.0	420.9	413.3	404.6	395.9	385.5	376.3
27.5°	492.1	493.2	490.0	487.7	480.7	475.8	463.9	457.9	451.3	438.8	427.4
30°	545.9	549.2	548.1	549.8	545.4	542.2	532.9	525.3	517.7	505.7	492.7
32.5°	613.9	618.3	620.5	626.5	624.2	623.2	620.5	609.5	604.1	583.5	578.0
35°	718.9	716.7	725.9	730.8	728.6	727.6	724.3	718.3	711.8	697.1	683.5
37.5°	855.4	857.5	860.8	851.0	844.5	844.0	834.1	828.2	818.9	802.6	786.3
40°	1105.5	1091.9	1076.7	1035.4	1017.4	1007.1	978.2	970.1	954.3	932.0	915.2
42.5°	1430.6	1417.1	1371.4	1302.4	1265.3	1214.2	1190.9	1162.0	1139.8	1103.3	1083.7
45°	1753.7	1714.5	1709.0	1628.6	1582.9	1515.5	1473.6	1425.2	1374.7	1326.8	1292.0
47.5°	2026.1	2017.4	1990.7	1941.8	1899.4	1842.8	1789.0	1714.5	1662.3	1594.4	1531.8
50°	2244.1	2243.6	2233.8	2205.5	2170.2	2124.5	2077.2	2014.1	1954.9	1871.6	1804.8
52.5°	2407.3	2416.0	2419.3	2410.6	2396.9	2356.7	2332.8	2280.1	2230.0	2159.3	2087.0
55°	2526.9	2559.0	2575.3	2593.8	2590.0	2575.9	2574.8	2540.5	2517.7	2461.6	2410.6
57.5°	2674.9	2727.5	2778.1	2867.9	2871.1	2902.7	2919.0	2935.3	2939.6	2917.3	2900.5
60°	2863.0	2970.7	3066.3	3254.0	3302.9	3380.1	3430.1	3484.5	3530.7	3534.5	3533.5
62.5°	2995.6	3161.5	3316.0	3594.4	3689.5	3778.7	3845.6	3898.3	3930.4	3963.0	3978.2
63°	2999.5	3181.1	3345.3	3632.4	3732.5	3817.3	3880.9	3929.9	3963.6	3983.1	3992.9
65°	2907.5	3127.8	3323.5	3609.5	3703.6	3789.0	3822.2	3854.3	3870.6	3878.2	3849.4
67.5°	2464.4	2679.7	2908.1	3227.8	3308.3	3410.5	3437.8	3454.1	3461.6	3460.0	3435.6
70°	1842.8	2023.4	2277.3	2642.8	2749.3	2849.4	2911.4	2938.0	2946.7	2944.0	2907.5
72.5°	1286.6	1392.6	1601.9	2008.7	2153.9	2282.2	2358.9	2398.6	2406.7	2390.4	2356.7
75°	1080.5	1085.9	1133.2	1355.6	1491.5	1628.6	1715.0	1740.1	1723.7	1674.2	1588.4
77.5°	964.6	976.6	976.6	1009.8	1036.4	1074.5	1082.6	1021.7	951.1	859.7	785.8
80°	809.2	851.0	880.4	904.9	907.6	899.9	879.8	845.6	791.2	721.6	644.4
82.5°	491.6	574.3	607.9	734.1	796.1	838.0	834.7	789.0	747.7	675.4	609.5
85°	124.0	133.7	145.2	188.7	211.6	258.3	287.6	301.3	306.1	281.2	254.5
87.5°	11.9	8.2	13.6	10.3	14.7	10.9	14.7	13.6	16.9	17.9	19.6
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: P165022

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

CANDELA DISTRIBUTION (continued):

	72°	73°	74°	75°	76°	77°	78°	79°	80°	81°	82°
0°	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7
2.5°	126.7	126.1	125.6	125.1	124.5	124.0	122.9	122.9	121.8	121.3	120.7
5°	140.8	139.7	139.2	138.1	136.5	135.4	133.7	131.6	130.0	129.4	128.3
7.5°	158.8	156.1	155.0	153.4	151.2	147.9	145.7	144.1	141.4	139.7	136.5
10°	178.9	176.2	172.9	169.7	166.4	162.6	159.8	157.7	153.4	151.2	147.4
12.5°	204.5	199.6	195.7	191.4	187.1	182.7	179.5	172.9	169.1	164.2	160.9
15°	230.6	226.2	221.9	216.4	209.9	202.8	199.6	193.6	188.7	181.1	176.7
17.5°	262.1	253.9	247.4	240.9	234.9	228.4	221.9	212.6	205.6	199.0	190.3
20°	293.1	283.3	276.2	267.5	258.8	248.5	240.9	234.4	224.6	215.9	206.6
22.5°	326.2	316.5	305.0	296.3	284.4	276.2	265.9	255.0	245.2	233.8	222.4
25°	366.5	356.2	343.1	331.7	318.1	306.7	294.2	281.6	269.7	256.7	242.0
27.5°	416.0	405.1	391.0	377.3	359.5	345.3	333.4	316.5	301.3	284.9	268.1
30°	478.5	466.6	449.2	429.6	411.7	395.9	379.0	356.7	339.8	320.3	298.6
32.5°	560.1	545.9	522.5	504.1	481.8	461.1	437.7	415.4	391.5	366.0	340.9
35°	662.9	649.8	622.6	595.4	571.0	546.5	517.1	491.6	457.9	426.8	394.7
37.5°	769.4	746.0	721.0	691.7	661.2	631.9	596.0	560.6	522.0	488.3	448.1
40°	891.2	863.0	842.3	810.8	767.8	725.9	692.8	648.7	600.3	555.2	507.9
42.5°	1058.2	1026.7	989.7	941.8	910.8	861.9	818.9	766.7	703.1	652.5	595.4
45°	1251.2	1208.3	1172.4	1126.1	1088.6	1027.7	977.7	908.1	844.5	778.1	708.5
47.5°	1471.4	1418.2	1366.0	1320.3	1260.5	1200.7	1137.1	1063.1	981.5	908.6	826.0
50°	1724.3	1648.7	1576.4	1517.7	1435.6	1366.5	1297.4	1214.2	1124.0	1040.2	946.1
52.5°	2005.4	1917.9	1822.2	1731.9	1636.7	1548.1	1464.9	1369.2	1268.6	1166.4	1061.5
55°	2344.7	2278.9	2166.4	2051.6	1924.4	1805.9	1698.7	1580.2	1457.8	1323.5	1213.1
57.5°	2876.0	2843.9	2749.9	2635.1	2469.3	2325.2	2143.6	1998.4	1821.1	1636.2	1493.8
60°	3596.0	3556.3	3503.5	3410.5	3278.9	3083.2	2883.1	2657.5	2387.7	2131.6	1888.6
62.5°	3979.9	3965.7	3922.8	3858.6	3735.7	3581.3	3379.6	3131.6	2827.1	2516.0	2206.1
63°	3991.3	3973.4	3936.4	3871.1	3762.9	3613.4	3415.4	3174.5	2876.6	2559.5	2243.0
65°	3836.9	3829.8	3792.2	3721.0	3647.1	3532.9	3379.6	3172.4	2922.2	2622.6	2307.8
67.5°	3403.0	3381.7	3324.1	3302.3	3250.7	3171.3	3054.4	2911.9	2733.0	2497.6	2225.6
70°	2878.2	2846.6	2774.3	2735.7	2672.6	2622.6	2551.4	2449.7	2339.3	2175.1	1972.3
72.5°	2321.9	2256.7	2190.3	2089.7	2001.7	1912.4	1833.6	1761.8	1640.5	1574.2	1420.3
75°	1507.9	1389.3	1275.7	1123.4	986.4	865.1	747.1	687.4	562.8	512.2	439.9
77.5°	715.6	649.3	560.1	491.0	402.9	329.0	268.6	201.7	158.2	124.0	94.6
80°	577.5	521.5	467.6	405.1	338.8	270.2	207.2	155.0	109.8	76.1	53.8
82.5°	515.0	454.0	387.7	344.8	299.6	245.2	201.2	164.2	121.3	88.6	60.4
85°	200.1	168.6	130.0	106.0	82.7	68.0	61.4	42.4	33.2	26.1	20.1
87.5°	17.4	14.2	11.4	7.6	8.2	4.4	4.9	3.2	2.7	2.7	2.2
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: P165022

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

CANDELA DISTRIBUTION (continued):

	83°	84°	85°	86°	87°	88°	89°	90°	95°	105°	115°
0°	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7
2.5°	120.2	119.6	119.1	118.0	118.0	116.9	116.3	115.9	113.1	107.1	102.2
5°	126.1	125.1	124.0	122.3	121.3	119.6	118.6	116.9	110.9	99.5	89.7
7.5°	134.9	132.7	131.0	127.8	126.1	124.0	122.3	119.6	109.8	92.4	78.8
10°	145.2	141.4	138.7	134.9	131.6	128.9	126.1	122.3	108.7	84.8	69.1
12.5°	157.7	153.4	147.9	143.5	139.2	135.4	131.6	126.7	107.1	78.3	61.4
15°	170.2	163.7	159.8	153.9	147.9	142.4	137.0	132.7	107.7	71.2	54.9
17.5°	184.3	177.8	169.7	163.1	156.6	149.6	143.0	134.3	104.9	65.8	50.0
20°	197.9	188.7	181.1	172.9	163.7	155.0	146.8	139.2	102.8	60.4	45.7
22.5°	212.6	201.7	191.9	181.6	170.2	160.4	150.6	140.8	98.9	55.5	41.9
25°	230.6	218.0	203.9	191.4	179.5	167.5	155.0	143.0	95.2	51.1	39.2
27.5°	252.3	236.0	221.9	206.1	189.2	174.0	160.4	147.4	91.4	47.8	36.4
30°	280.1	261.0	240.9	220.8	202.8	185.4	166.4	150.1	87.5	44.6	33.7
32.5°	317.0	293.1	268.6	245.2	221.3	199.0	178.9	157.7	85.4	41.9	31.0
35°	366.0	335.0	305.0	275.7	246.8	219.7	193.6	169.7	85.4	38.6	27.7
37.5°	412.1	376.3	338.2	301.8	267.5	236.0	205.0	176.2	81.1	35.9	25.0
40°	462.2	419.2	374.6	331.7	290.4	251.2	215.9	182.7	77.2	32.6	22.3
42.5°	538.9	484.5	426.4	376.3	326.8	278.4	234.4	195.2	72.3	29.3	19.6
45°	639.5	570.4	501.9	441.0	377.9	318.7	266.5	218.0	71.2	26.6	16.9
47.5°	747.1	665.6	585.1	507.4	433.4	364.3	301.8	243.6	71.2	23.9	14.7
50°	854.3	752.0	666.1	575.9	492.7	411.1	336.6	270.2	71.8	21.8	11.9
52.5°	951.1	841.8	745.5	641.1	549.2	454.6	373.6	296.3	70.7	19.0	9.8
55°	1085.3	957.1	845.6	730.3	622.6	516.1	424.1	335.5	71.2	16.9	8.2
57.5°	1332.8	1182.2	1047.8	896.7	772.7	635.1	523.6	416.0	77.8	14.2	6.0
60°	1687.9	1492.1	1303.4	1119.1	961.4	797.7	653.0	526.4	91.4	11.4	4.4
62.5°	1926.6	1670.5	1445.3	1242.0	1058.7	887.5	729.7	585.6	100.6	9.2	2.7
63°	1951.0	1686.2	1460.0	1250.2	1063.1	891.8	733.0	590.0	101.2	8.7	2.7
65°	1997.3	1713.4	1468.2	1251.8	1058.7	885.8	730.8	589.4	102.2	7.1	2.2
67.5°	1944.5	1671.5	1420.9	1205.0	1020.7	850.4	703.6	567.7	101.7	4.9	1.6
70°	1739.0	1512.8	1292.5	1091.3	923.9	770.0	640.6	517.7	93.5	3.2	1.1
72.5°	1276.8	1122.9	952.1	806.9	696.0	578.0	493.2	388.8	72.3	2.2	0.5
75°	378.5	344.8	289.8	255.6	225.7	186.5	165.8	129.4	37.0	1.1	0.0
77.5°	75.6	68.5	61.4	56.0	52.7	45.1	43.0	35.3	15.2	0.5	0.0
80°	39.7	32.6	27.7	24.5	21.2	17.4	14.7	11.9	2.7	0.0	0.0
82.5°	38.1	25.6	18.5	15.2	13.0	10.3	8.2	6.0	1.6	0.0	0.0
85°	14.2	10.9	8.2	6.5	5.5	4.9	3.8	3.2	0.0	0.0	0.0
87.5°	2.2	1.6	1.6	1.1	1.1	0.5	0.5	0.5	0.0	0.0	0.0
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: P165022

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

CANDELA DISTRIBUTION (continued):

	125°	135°	145°	155°	165°	175°	180°
0°	114.7	114.7	114.7	114.7	114.7	114.7	114.7
2.5°	97.3	93.0	90.8	88.1	88.1	87.5	88.6
5°	81.1	75.1	70.7	67.4	68.0	66.4	66.9
7.5°	68.5	62.5	58.7	56.6	56.0	55.5	55.5
10°	59.3	53.8	50.6	49.0	48.4	48.4	48.4
12.5°	52.7	47.3	44.6	43.5	43.5	43.0	43.0
15°	47.3	43.0	40.3	39.2	39.2	38.6	39.2
17.5°	43.0	38.6	36.4	35.3	35.3	34.8	34.8
20°	39.2	35.3	33.2	31.6	31.6	31.0	31.6
22.5°	35.9	32.1	29.3	28.3	27.7	27.2	27.7
25°	32.6	28.8	26.1	24.5	23.9	23.9	23.4
27.5°	29.9	26.1	22.9	21.2	20.7	20.7	20.1
30°	27.2	22.9	19.6	17.9	17.4	17.4	17.4
32.5°	24.5	19.6	16.9	15.2	14.7	14.7	14.7
35°	21.8	16.9	14.2	12.5	11.9	11.9	11.9
37.5°	18.5	14.2	10.9	9.8	9.2	8.7	8.7
40°	15.8	10.9	8.2	7.1	6.0	6.0	6.0
42.5°	13.0	8.7	6.0	4.4	3.8	3.2	3.8
45°	10.9	6.5	3.8	2.2	1.6	1.6	1.6
47.5°	8.7	4.4	1.6	0.5	0.5	0.5	0.5
50°	6.5	2.7	0.5	0.0	0.0	0.5	0.5
52.5°	4.9	1.6	0.0	0.0	0.0	0.0	0.0
55°	2.7	0.5	0.0	0.0	0.0	0.0	0.0
57.5°	1.6	0.0	0.0	0.0	0.0	0.0	0.0
60°	1.1	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	0.5	0.0	0.0	0.0	0.0	0.0	0.0
63°	0.5	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.5	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)