

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: P158708

Luminaire Tested: **VST-E09-LED-E-U-SL4-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P158708
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33714)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: VST-E09-LED-E-U-SL4-8030
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(9) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (189) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22035.2 lumens
Efficiency: N/A
Efficacy: 97.6 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Full Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 225.7
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

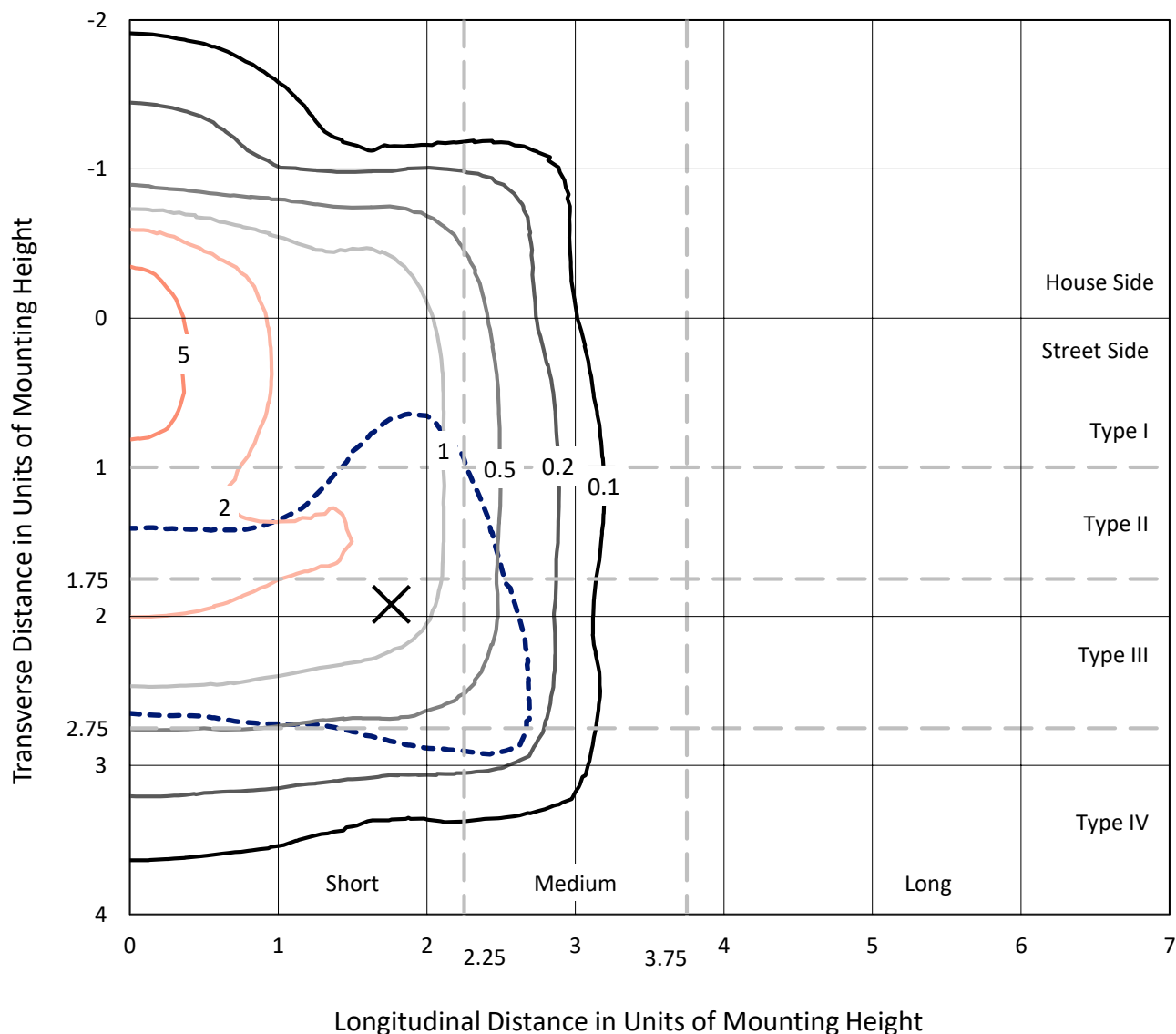


REPORT NUMBER: P158708

CATALOG NUMBER: VST-E09-LED-E-U-SL4-8030

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
- - - 1/2 Max cd

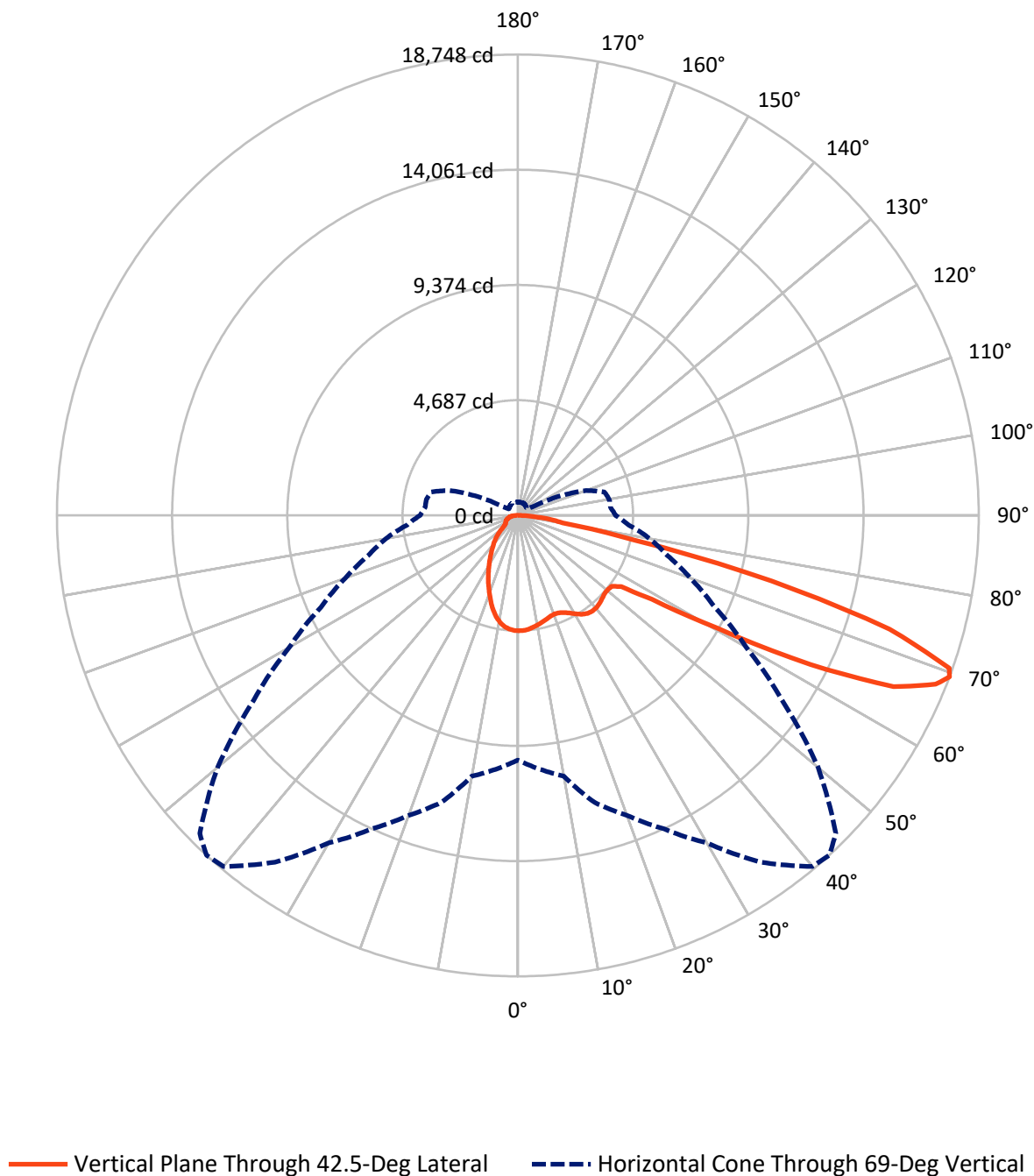


Based on 25 foot mounting height. Maximum calculated value = 7.5 fc
Type IV - Short - Full Cutoff

REPORT NUMBER: P158708

CATALOG NUMBER: VST-E09-LED-E-U-SL4-8030

Luminous Intensity Polar Plot



REPORT NUMBER: P158708

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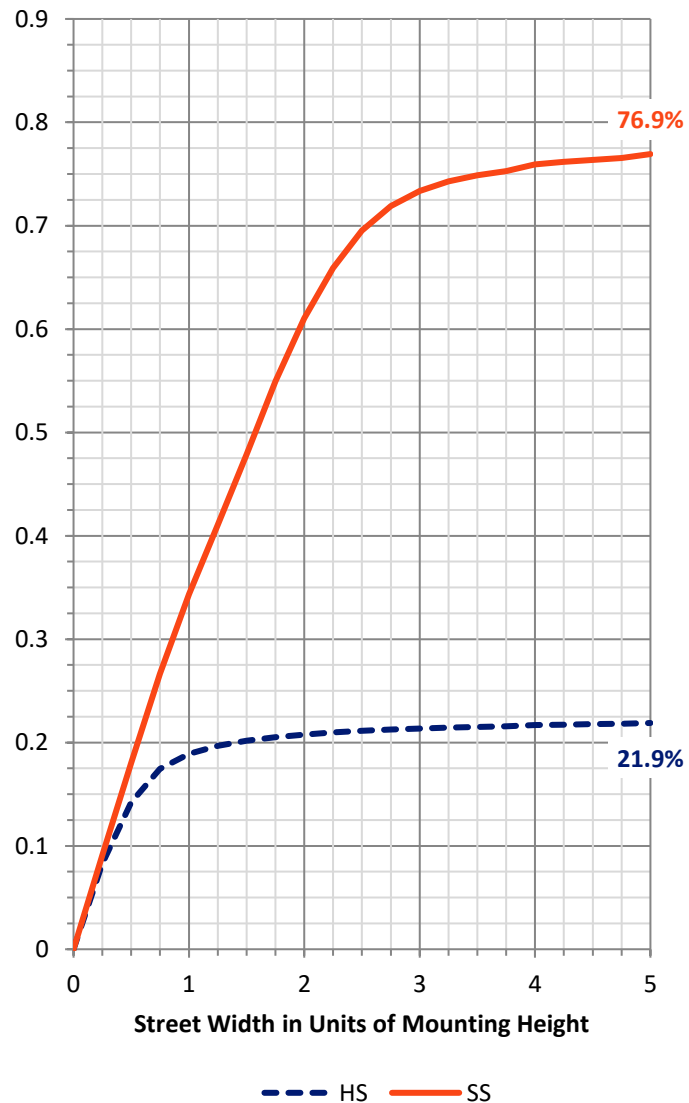
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4898.8	0.0	4898.8
	% Fixture	22.2	0.0	22.2
Street Side	Lumens	17136.5	0.0	17136.5
	% Fixture	77.8	0.0	77.8
Total	Lumens	22035.2	0.0	22035.2
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	436.8	2.0
10°-20°	1177.3	5.3
20°-30°	1716.8	7.8
30°-40°	2188.6	9.9
40°-50°	2546.5	11.6
50°-60°	3874.5	17.6
60°-70°	6844.1	31.1
70°-80°	2824.3	12.8
80°-90°	426.4	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°	22035.2	100.0
0°-180°	22035.2	100.0

Coefficient of Utilization



REPORT NUMBER: P158708

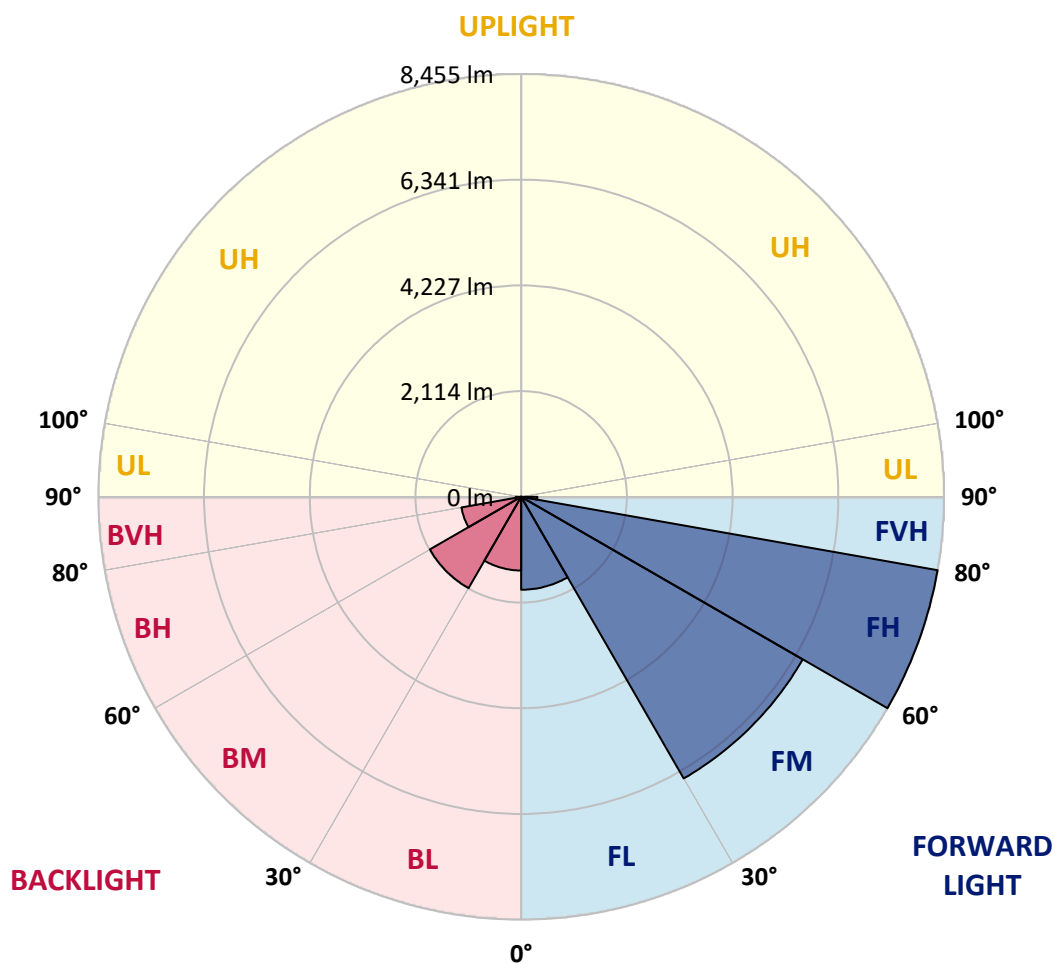
CATALOG NUMBER: VST-E09-LED-E-U-SL4-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1858.1	8.4			
FM	(30°-60°)	6501.0	29.5			
FH	(60°-80°)	8454.9	38.4			G4/12000
FVH	(80°-90°)	322.5	1.5			G3/500
BL	(0°-30°)	1472.9	6.7	B3/2500		
BM	(30°-60°)	2108.5	9.6	B2/2500		
BH	(60°-80°)	1213.4	5.5	B3/2500		G3/2500
BVH	(80°-90°)	104.0	0.5			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





REPORT NUMBER: P158708

CATALOG NUMBER: VST-E09-LED-E-U-SL4-8030

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8
2.5°	4677.6	4694.3	4688.2	4688.2	4692.8	4685.2	4685.2	4688.2	4680.6	4685.2	4683.6
5°	4660.9	4670.0	4666.9	4666.9	4666.9	4660.9	4657.8	4656.3	4645.7	4645.7	4641.1
7.5°	4624.4	4627.4	4632.0	4625.9	4624.4	4622.9	4612.2	4606.2	4594.0	4583.4	4586.4
10°	4575.8	4574.3	4581.9	4577.3	4571.2	4566.7	4557.6	4546.9	4533.2	4519.6	4518.1
12.5°	4521.1	4519.6	4525.6	4522.6	4518.1	4508.9	4501.3	4483.1	4461.8	4445.1	4443.6
15°	4486.1	4481.6	4487.7	4481.6	4474.0	4464.9	4451.2	4428.4	4390.4	4373.7	4360.1
17.5°	4519.6	4512.0	4515.0	4507.4	4496.8	4472.5	4440.6	4392.0	4337.3	4308.4	4287.1
20°	4636.5	4622.9	4625.9	4618.3	4594.0	4562.1	4501.3	4416.3	4323.6	4276.5	4243.1
22.5°	4803.7	4793.0	4797.6	4790.0	4765.7	4717.1	4625.9	4504.4	4372.2	4303.8	4250.7
25°	5057.4	5066.5	5069.5	5034.6	5020.9	4931.3	4805.2	4636.5	4460.3	4379.8	4306.9
27.5°	5343.0	5343.0	5356.6	5343.0	5315.6	5210.8	5033.1	4829.5	4603.1	4493.7	4405.6
30°	5621.0	5617.9	5643.8	5640.7	5596.7	5478.2	5276.1	5028.5	4770.2	4647.2	4534.8
32.5°	5915.7	5924.8	5941.5	5935.5	5877.7	5713.6	5470.6	5201.7	4929.8	4794.5	4668.5
35°	6234.7	6239.3	6245.4	6242.3	6125.3	5918.7	5613.4	5312.6	5030.0	4896.3	4765.7
37.5°	6553.8	6549.2	6541.6	6476.3	6342.6	6055.5	5700.0	5376.4	5080.2	4935.8	4800.6
40°	6839.4	6813.5	6789.2	6687.4	6482.4	6132.9	5733.4	5391.6	5075.6	4926.7	4794.5
42.5°	6995.8	6967.0	6916.8	6789.2	6540.1	6140.5	5710.6	5346.0	5028.5	4881.1	4750.5
45°	7024.7	7003.4	6954.8	6812.0	6526.4	6091.9	5640.7	5271.6	4958.6	4811.3	4688.2
47.5°	6956.3	6939.6	6892.5	6751.3	6467.2	6019.0	5560.2	5192.6	4890.3	4752.0	4633.5
50°	6851.5	6836.3	6799.9	6670.7	6400.3	5968.9	5519.2	5151.6	4867.5	4741.4	4632.0
52.5°	7021.7	7033.8	6927.5	6786.2	6471.7	6012.9	5564.8	5194.1	4908.5	4783.9	4670.0
55°	9666.6	9649.9	9010.3	8474.0	7515.4	6646.4	5997.7	5531.3	5226.0	5101.4	4995.1
57.5°	12560.6	12502.9	12240.1	11738.7	10708.7	9333.9	8083.6	7020.1	6600.9	6421.6	6433.7
60°	13505.5	13526.8	13470.6	13292.9	12923.7	12208.2	11257.2	10458.1	9671.1	9286.8	9330.8
62.5°	14029.7	14067.6	14116.3	14076.8	13956.7	13791.1	13671.1	13744.1	13634.7	13358.2	13137.9
65°	14102.6	14180.1	14341.1	14468.7	14531.0	14687.5	15055.1	15936.2	16741.4	16794.6	16407.2
67.5°	12659.4	12873.6	13223.0	13813.9	14319.8	14875.8	15763.0	17103.0	18291.0	18330.5	17968.9
69°	9953.7	10365.4	10774.1	12094.2	12982.9	14072.2	15384.8	17215.4	18638.9	18748.2	18292.5
70°	7975.7	8220.3	8572.8	9899.0	11226.8	12615.3	14517.3	16844.7	18400.4	18620.6	18117.8
72.5°	4788.5	4882.7	5004.2	5479.7	6163.3	7399.9	9921.8	13733.4	15521.5	15816.2	15176.6
75°	3096.1	3090.0	3100.7	3232.8	3272.3	3509.3	4303.8	7065.7	10125.4	10660.1	9894.4
77.5°	2331.9	2353.2	2319.8	2331.9	2321.3	2385.1	2409.4	2529.4	3997.0	4923.7	4402.6
80°	2058.5	2069.1	2070.6	2064.6	1990.1	1984.1	2023.6	1955.2	1816.9	1844.3	1766.8
82.5°	1174.3	1172.8	1186.5	1289.8	1332.3	1472.1	1529.8	1561.7	1441.7	1352.1	1222.9
85°	761.1	767.2	782.4	814.3	782.4	794.5	780.9	808.2	741.4	688.2	615.3
87.5°	311.4	311.4	331.2	360.0	335.7	329.7	282.6	279.5	237.0	214.2	167.1
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: P158708

CATALOG NUMBER: VST-E09-LED-E-U-SL4-8030

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8
2.5°	4674.5	4683.6	4679.1	4685.2	4680.6	4680.6	4674.5	4673.0	4677.6	4671.5	4673.0
5°	4633.5	4635.0	4627.4	4630.5	4621.4	4618.3	4613.8	4601.6	4609.2	4601.6	4604.6
7.5°	4574.3	4569.7	4559.1	4543.9	4533.2	4528.7	4519.6	4502.9	4505.9	4492.2	4499.8
10°	4498.3	4483.1	4464.9	4442.1	4426.9	4413.2	4393.5	4373.7	4363.1	4350.9	4349.4
12.5°	4413.2	4395.0	4370.7	4335.8	4302.3	4279.5	4249.2	4214.2	4203.6	4183.8	4173.2
15°	4320.6	4291.7	4262.8	4223.3	4186.9	4151.9	4110.9	4066.9	4038.0	4007.6	3984.8
17.5°	4237.0	4203.6	4165.6	4127.6	4088.1	4045.6	3993.9	3939.2	3896.7	3840.5	3794.9
20°	4171.7	4129.1	4091.2	4051.7	4007.6	3956.0	3893.7	3823.8	3752.4	3690.1	3636.9
22.5°	4145.9	4079.0	4033.4	3993.9	3949.9	3889.1	3813.2	3731.1	3644.5	3557.9	3488.0
25°	4167.1	4068.4	3997.0	3949.9	3911.9	3849.6	3764.5	3664.3	3564.0	3460.7	3366.5
27.5°	4229.4	4103.3	4000.0	3925.6	3881.5	3819.2	3729.6	3623.3	3504.8	3389.3	3273.8
30°	4326.6	4162.6	4031.9	3927.1	3858.7	3787.3	3693.1	3570.1	3450.1	3317.9	3191.8
32.5°	4420.8	4224.8	4068.4	3933.2	3828.3	3735.7	3630.8	3509.3	3380.2	3241.9	3111.3
35°	4487.7	4265.9	4082.0	3919.5	3781.2	3665.8	3553.4	3431.8	3305.7	3164.5	3030.8
37.5°	4519.6	4288.7	4083.6	3883.0	3719.0	3591.4	3471.3	3351.3	3232.8	3099.1	2973.0
40°	4518.1	4287.1	4062.3	3835.9	3644.5	3509.3	3390.8	3273.8	3162.9	3046.0	2932.0
42.5°	4484.6	4262.8	4031.9	3790.4	3591.4	3441.0	3317.9	3205.5	3111.3	3008.0	2912.3
45°	4433.0	4221.8	4000.0	3769.1	3576.2	3425.8	3295.1	3185.7	3102.2	3008.0	2925.9
47.5°	4393.5	4199.0	4004.6	3807.1	3623.3	3466.8	3328.5	3208.5	3137.1	3061.2	3003.4
50°	4399.6	4209.7	4019.8	3829.9	3656.7	3498.7	3365.0	3255.6	3204.0	3184.2	3170.5
52.5°	4431.5	4226.4	4065.3	3951.4	3892.1	3773.7	3694.7	3626.3	3664.3	3589.8	3501.7
55°	4838.6	4771.8	4928.2	5075.6	5262.5	5332.3	5265.5	5253.3	5314.1	5061.9	4483.1
57.5°	6520.3	6693.5	6935.1	7062.7	7217.6	7176.6	7021.7	6892.5	6740.6	6445.9	5724.3
60°	9381.0	9250.3	9140.9	8832.5	8580.3	8285.6	7957.5	7676.4	7407.5	6983.7	6202.8
62.5°	12328.2	11421.2	10663.2	9930.9	9341.5	8852.3	8376.8	7954.4	7547.3	6956.3	6116.2
65°	14877.4	12967.8	11544.3	10470.2	9608.8	8866.0	8255.2	7671.9	7153.8	6461.1	5630.1
67.5°	16022.8	13630.1	11559.5	10020.5	8828.0	7819.2	7029.3	6148.1	5567.8	5124.2	4656.3
69°	15937.8	13124.2	10734.6	8840.1	7469.8	6294.0	5446.3	4527.2	3971.1	3782.8	3772.1
70°	15533.7	12267.4	9771.4	7881.5	6313.7	5145.5	4332.7	3507.8	2989.8	2860.6	3090.0
72.5°	12682.1	8668.5	6123.8	4676.0	3595.9	2842.4	2318.3	1839.7	1469.1	1273.1	1315.6
75°	7163.0	4013.7	2594.8	1961.3	1657.4	1370.3	1175.8	1002.7	907.0	736.8	583.4
77.5°	2603.9	1722.8	1370.3	1185.0	840.1	578.8	484.6	423.9	384.4	384.4	366.1
80°	1646.8	1297.4	905.4	619.8	458.8	399.5	349.4	306.9	282.6	276.5	282.6
82.5°	1028.5	794.5	507.4	388.9	326.6	293.2	255.2	223.3	203.6	199.0	208.1
85°	507.4	393.5	308.4	275.0	258.3	240.0	211.2	180.8	174.7	186.9	218.8
87.5°	151.9	135.2	110.9	115.5	121.5	118.5	94.2	82.0	77.5	101.8	159.5
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: P158708

CATALOG NUMBER: VST-E09-LED-E-U-SL4-8030

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8	4692.8
2.5°	4676.0	4674.5	4677.6	4673.0	4676.0	4677.6	4674.5	4688.2	4679.1	4680.6	4686.7
5°	4607.7	4604.6	4616.8	4613.8	4619.8	4625.9	4622.9	4642.6	4635.0	4641.1	4653.3
7.5°	4493.7	4499.8	4501.3	4501.3	4513.5	4533.2	4537.8	4550.0	4550.0	4566.7	4578.8
10°	4341.8	4343.3	4352.5	4350.9	4366.1	4387.4	4390.4	4411.7	4419.3	4446.7	4463.4
12.5°	4165.6	4158.0	4156.5	4155.0	4174.7	4197.5	4200.5	4237.0	4252.2	4276.5	4303.8
15°	3968.1	3948.4	3942.3	3954.4	3949.9	3963.6	3977.2	3997.0	4018.2	4066.9	4091.2
17.5°	3775.2	3735.7	3725.0	3711.4	3697.7	3697.7	3703.8	3728.1	3772.1	3798.0	3852.6
20°	3577.7	3530.6	3492.6	3456.1	3424.2	3412.1	3413.6	3444.0	3475.9	3518.4	3570.1
22.5°	3412.1	3340.7	3275.4	3226.7	3161.4	3159.9	3150.8	3159.9	3194.8	3205.5	3234.3
25°	3269.3	3173.6	3085.5	3006.5	2942.7	2909.2	2900.1	2897.1	2880.4	2875.8	2854.5
27.5°	3158.4	3042.9	2929.0	2833.3	2754.3	2708.7	2651.0	2610.0	2550.7	2535.5	2497.5
30°	3067.2	2942.7	2818.1	2693.5	2603.9	2521.8	2424.6	2353.2	2262.1	2202.8	2151.2
32.5°	2979.1	2853.0	2726.9	2603.9	2465.6	2338.0	2210.4	2099.5	1997.7	1906.6	1830.6
35°	2906.2	2786.2	2658.6	2509.7	2333.5	2149.6	1996.2	1870.1	1730.4	1634.6	1538.9
37.5°	2859.1	2749.7	2622.1	2417.0	2190.7	1993.2	1818.5	1665.0	1522.2	1377.9	1270.0
40°	2837.8	2742.1	2582.6	2331.9	2066.1	1847.3	1654.4	1484.2	1301.9	1139.4	1023.9
42.5°	2836.3	2739.1	2527.9	2237.8	1962.8	1724.3	1510.1	1306.5	1104.4	937.3	823.4
45°	2863.7	2734.5	2470.2	2158.8	1871.6	1622.5	1367.3	1119.6	893.3	768.7	707.9
47.5°	2936.6	2742.1	2423.1	2085.8	1785.0	1499.4	1203.2	914.5	727.7	670.0	670.0
50°	3067.2	2786.2	2410.9	2034.2	1698.4	1356.6	1002.7	738.3	644.1	644.1	662.4
52.5°	3267.8	2878.9	2432.2	1997.7	1590.6	1168.3	790.0	636.5	618.3	635.0	659.3
55°	3729.6	3042.9	2461.1	1935.4	1426.5	926.7	651.7	601.6	609.2	628.9	651.7
57.5°	4577.3	3393.9	2491.5	1798.7	1162.2	714.0	591.0	587.9	601.6	619.8	639.6
60°	5134.8	3840.5	2568.9	1592.1	879.6	589.4	560.6	578.8	595.5	610.7	625.9
62.5°	5134.8	3966.6	2626.7	1361.2	660.8	536.3	540.8	569.7	589.4	597.0	606.2
65°	4806.7	3735.7	2430.7	1109.0	537.8	505.9	522.6	551.5	569.7	575.8	583.4
67.5°	4200.5	3299.7	2047.9	835.6	480.1	480.1	501.3	522.6	537.8	549.9	562.1
69°	3652.1	2960.9	1803.3	707.9	457.3	460.3	481.6	499.8	518.0	533.2	548.4
70°	3257.1	2707.2	1633.1	642.6	443.6	445.1	466.4	486.1	502.8	519.6	537.8
72.5°	1744.0	1870.1	1241.2	527.2	408.7	413.2	433.0	451.2	466.4	483.1	499.8
75°	594.0	803.6	790.0	431.4	369.2	381.3	393.5	410.2	429.9	440.6	449.7
77.5°	347.9	360.0	420.8	350.9	332.7	338.8	352.5	366.1	382.8	393.5	401.1
80°	291.7	290.2	291.7	285.6	290.2	303.8	313.0	331.2	346.4	349.4	347.9
82.5°	237.0	249.1	250.7	247.6	261.3	271.9	279.5	290.2	288.6	291.7	297.8
85°	211.2	209.6	220.3	221.8	221.8	214.2	215.7	215.7	215.7	220.3	221.8
87.5°	211.2	176.2	136.7	123.1	129.1	121.5	115.5	113.9	126.1	138.2	135.2
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: P158708

CATALOG NUMBER: VST-E09-LED-E-U-SL4-8030

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	4692.8	4692.8	4692.8	4692.8	4692.8
2.5°	4689.7	4694.3	4691.2	4691.2	4694.3
5°	4657.8	4665.4	4662.4	4665.4	4665.4
7.5°	4584.9	4595.5	4603.1	4610.7	4606.2
10°	4480.1	4498.3	4510.5	4519.6	4515.0
12.5°	4323.6	4340.3	4366.1	4381.3	4369.2
15°	4109.4	4156.5	4171.7	4192.9	4180.8
17.5°	3886.1	3914.9	3933.2	3952.9	3965.1
20°	3588.3	3611.1	3635.4	3644.5	3630.8
22.5°	3229.8	3241.9	3237.4	3251.1	3223.7
25°	2836.3	2843.9	2839.4	2851.5	2828.7
27.5°	2464.1	2462.6	2464.1	2448.9	2433.7
30°	2105.6	2091.9	2085.8	2063.1	2058.5
32.5°	1785.0	1737.9	1713.6	1680.2	1672.6
35°	1464.5	1397.6	1353.6	1315.6	1298.9
37.5°	1177.4	1096.9	1045.2	1011.8	1007.2
40°	931.3	856.8	820.4	802.1	799.1
42.5°	759.6	727.7	718.6	718.6	718.6
45°	692.7	691.2	698.8	704.9	706.4
47.5°	679.1	688.2	698.8	707.9	711.0
50°	679.1	688.2	695.8	704.9	707.9
52.5°	676.0	683.6	686.7	692.7	695.8
55°	666.9	671.5	671.5	674.5	677.6
57.5°	651.7	654.8	650.2	653.2	660.8
60°	636.5	639.6	632.0	639.6	644.1
62.5°	619.8	621.3	618.3	624.4	624.4
65°	592.5	589.4	594.0	598.6	600.1
67.5°	565.1	557.5	562.1	563.6	566.7
69°	543.9	539.3	540.8	543.9	546.9
70°	528.7	525.6	528.7	533.2	537.8
72.5°	490.7	492.2	502.8	512.0	521.1
75°	455.8	466.4	480.1	499.8	510.4
77.5°	413.2	420.8	431.4	452.7	472.5
80°	357.0	361.6	363.1	370.7	369.2
82.5°	290.2	285.6	282.6	279.5	278.0
85°	208.1	206.6	194.5	185.3	185.3
87.5°	124.6	118.5	112.4	104.8	100.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)