

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: P159590

Luminaire Tested: **VST-E09-LED-E-U-T3**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P159590
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33706)
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-T3
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(9) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 AREA
Light Source: (189) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 27525.3 lumens
Efficiency: N/A
Efficacy: 122.0 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B4 - 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



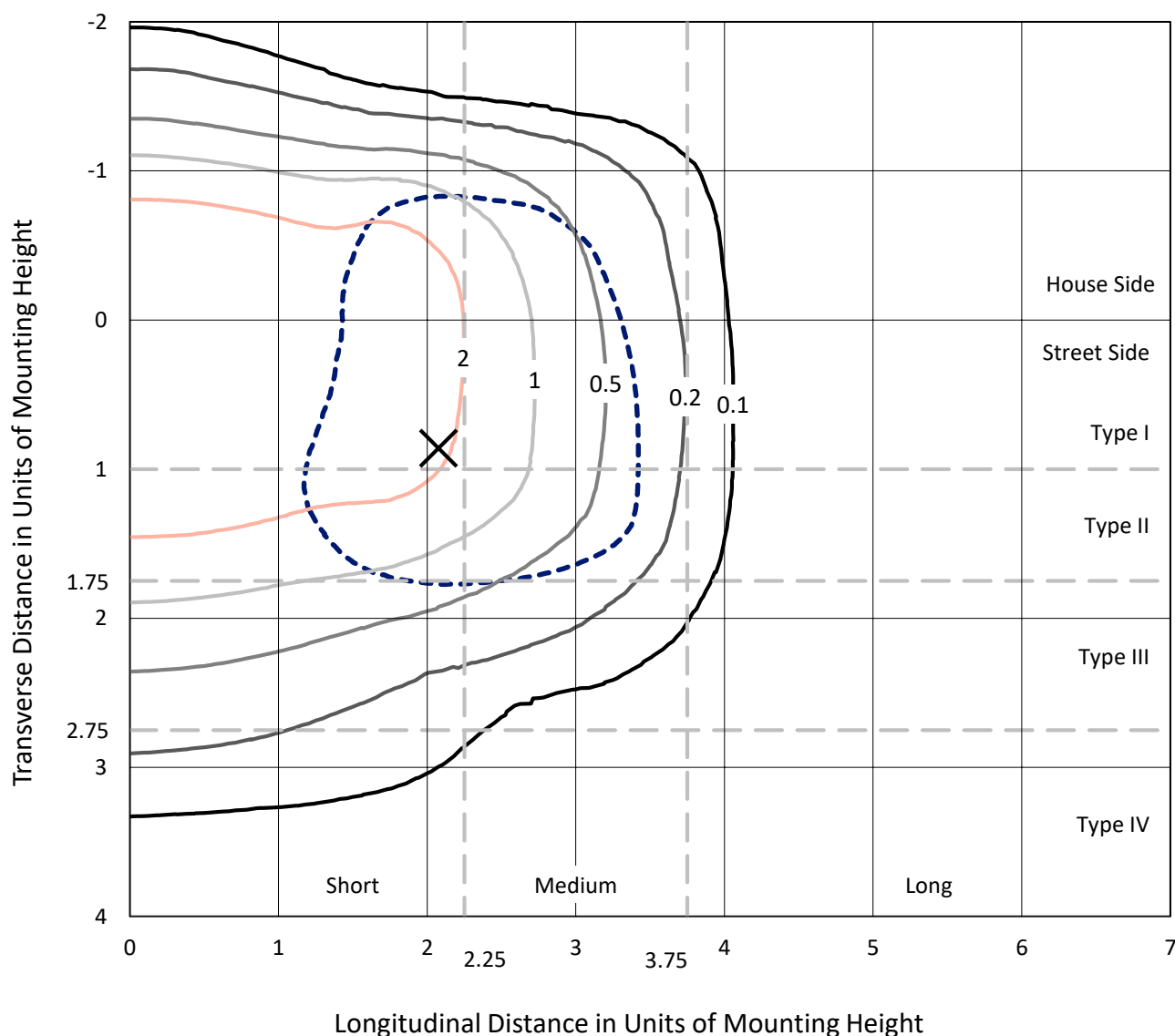
REPORT NUMBER: P159590

CATALOG NUMBER: VST-E09-LED-E-U-T3

Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

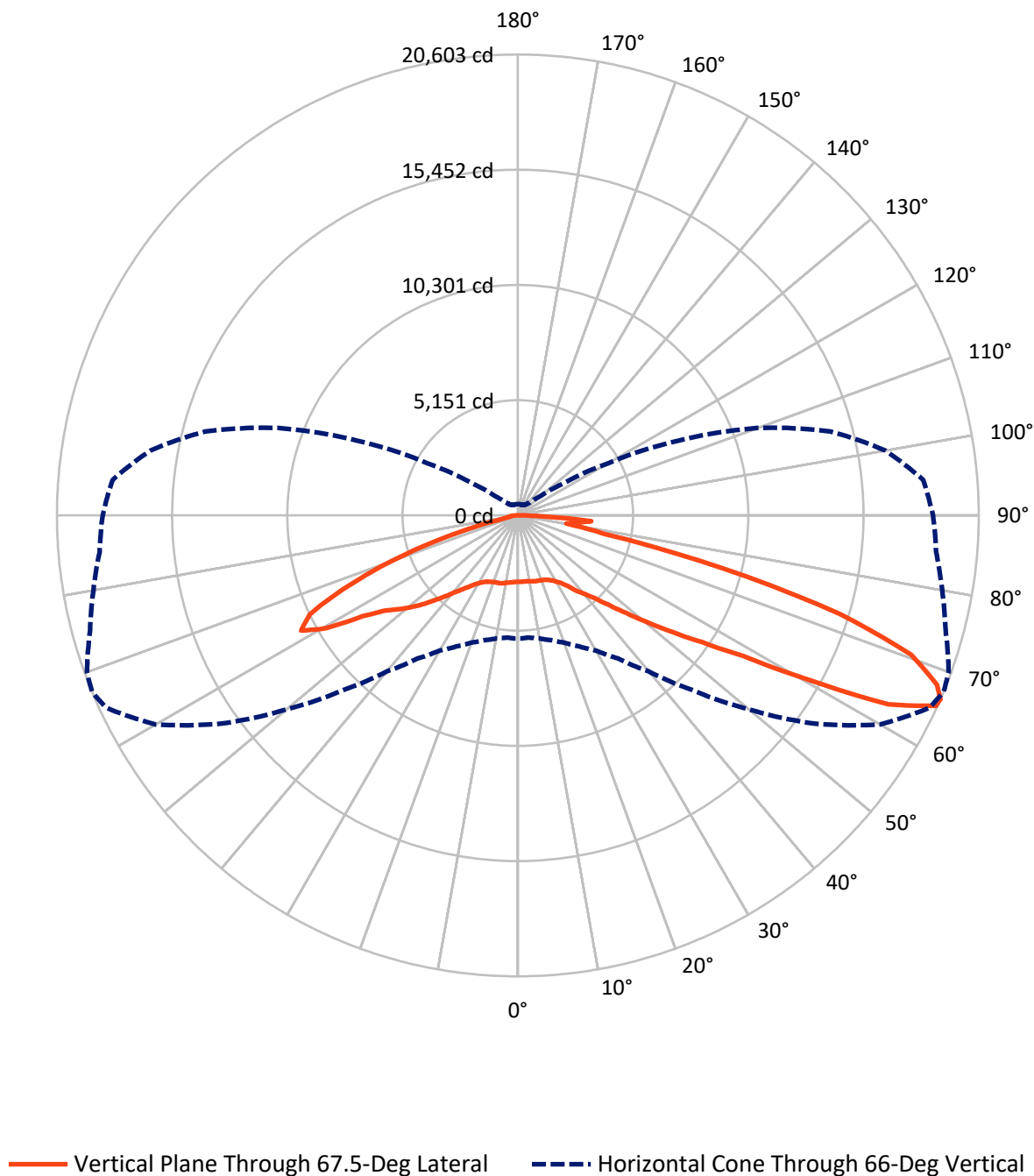


Based on 25 foot mounting height. Maximum calculated value = 4.8 fc
 Type II - Short - Semi-Cutoff

REPORT NUMBER: P159590

CATALOG NUMBER: VST-E09-LED-E-U-T3

Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	9525.0	0.0	9525.0
	% Fixture	34.6	0.0	34.6
Street Side	Lumens	18000.3	0.0	18000.3
	% Fixture	65.4	0.0	65.4
Total	Lumens	27525.3	0.0	27525.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	285.0	1.0
10°-20°	843.9	3.1
20°-30°	1450.7	5.3
30°-40°	2344.6	8.5
40°-50°	3885.6	14.1
50°-60°	6098.1	22.2
60°-70°	8337.3	30.3
70°-80°	3666.3	13.3
80°-90°	613.7	2.2
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°	27525.3	100.0
0°-180°	27525.3	100.0

Coefficient of Utilization



REPORT NUMBER: P159590

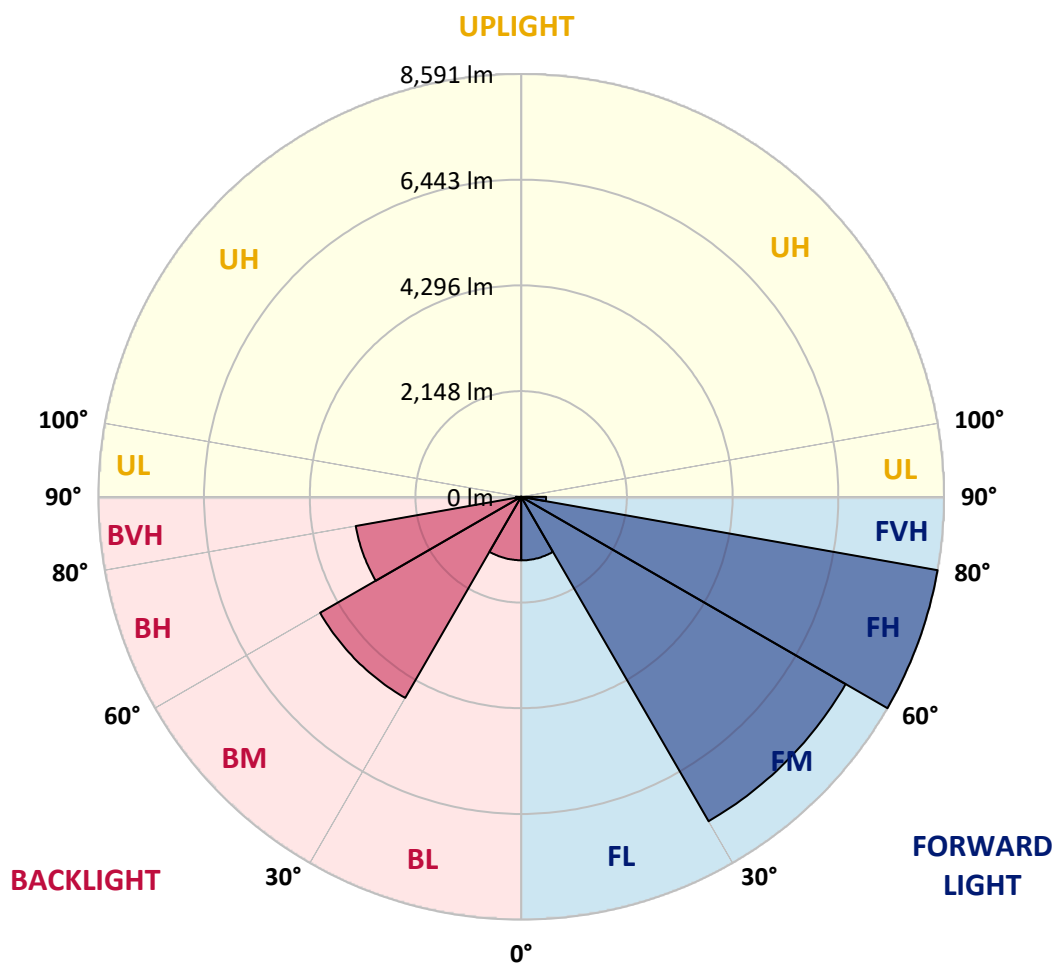
CATALOG NUMBER: VST-E09-LED-E-U-T3

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1291.2	4.7			
FM	(30°-60°)	7611.6	27.7			
FH	(60°-80°)	8591.2	31.2			G4/12000
FVH	(80°-90°)	506.3	1.8			G4/750
BL	(0°-30°)	1288.5	4.7	B3/2500		
BM	(30°-60°)	4716.7	17.1	B3/5000		
BH	(60°-80°)	3412.4	12.4	B4/5000		G4/5000
BVH	(80°-90°)	107.4	0.4			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G4

Type II Short





REPORT NUMBER: P159590

CATALOG NUMBER: VST-E09-LED-E-U-T3

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0
2.5°	2964.6	2964.6	2966.4	2964.6	2964.6	2962.8	2970.0	2970.0	2970.0	2968.2	2973.6
5°	2957.4	2957.4	2959.2	2959.2	2961.0	2959.2	2964.6	2966.4	2966.4	2966.4	2971.8
7.5°	2939.4	2944.8	2941.2	2943.0	2944.8	2950.2	2957.4	2961.0	2964.6	2970.0	2971.8
10°	2901.6	2910.6	2908.8	2914.2	2916.0	2932.2	2937.6	2944.8	2957.4	2964.6	2970.0
12.5°	2849.4	2854.8	2856.6	2863.8	2871.0	2890.8	2905.2	2917.8	2935.8	2953.8	2971.8
15°	2808.0	2811.6	2811.6	2818.8	2829.6	2847.6	2865.6	2887.2	2914.2	2944.8	2973.6
17.5°	2820.6	2829.6	2822.4	2820.6	2824.2	2835.0	2851.2	2869.2	2901.6	2935.8	2970.0
20°	2903.4	2905.2	2901.6	2892.6	2885.4	2887.2	2887.2	2890.8	2910.6	2937.6	2964.6
22.5°	2971.8	2979.0	2977.2	2979.0	2977.2	2984.4	2980.8	2973.6	2966.4	2968.2	2980.8
25°	3031.2	3038.4	3038.4	3043.8	3052.8	3067.2	3078.0	3076.2	3065.4	3051.0	3045.6
27.5°	3128.4	3128.4	3128.4	3133.8	3146.4	3164.4	3182.4	3193.2	3202.2	3187.8	3157.2
30°	3281.4	3283.2	3277.8	3279.6	3288.6	3312.0	3333.6	3349.8	3367.8	3366.0	3326.4
32.5°	3448.8	3456.0	3454.2	3461.4	3474.0	3495.6	3519.0	3544.2	3567.6	3582.0	3556.8
35°	3664.8	3672.0	3673.8	3684.6	3699.0	3731.4	3763.8	3796.2	3821.4	3832.2	3826.8
37.5°	4019.4	4021.2	4014.0	3997.8	4003.2	4028.4	4066.2	4118.4	4134.6	4145.4	4170.6
40°	4550.4	4545.0	4516.2	4501.8	4492.8	4503.6	4496.4	4537.8	4575.6	4577.4	4575.6
42.5°	5194.8	5178.6	5151.6	5148.0	5144.4	5140.8	5121.0	5122.8	5157.0	5166.0	5155.2
45°	5835.6	5815.8	5796.0	5814.0	5792.4	5848.2	5864.4	5907.6	5913.0	5931.0	5904.0
47.5°	6361.2	6363.0	6363.0	6388.2	6431.4	6537.6	6633.0	6715.8	6746.4	6789.6	6795.0
50°	6759.0	6769.8	6804.0	6885.0	6976.8	7155.0	7315.2	7464.6	7599.6	7650.0	7783.2
52.5°	6991.2	7020.0	7092.0	7227.0	7390.8	7621.2	7873.2	8127.0	8361.0	8559.0	8717.4
55°	6949.8	6971.4	7097.4	7308.0	7563.6	7873.2	8226.0	8593.2	8958.6	9293.4	9552.6
57.5°	6683.4	6697.8	6823.8	7061.4	7380.0	7795.8	8294.4	8839.8	9352.8	9892.8	10335.6
60°	6334.2	6355.8	6472.8	6660.0	6993.0	7435.8	8013.6	8753.4	9572.4	10422.0	11250.0
62.5°	6111.0	6105.6	6208.2	6375.6	6625.8	7027.2	7583.4	8460.0	9594.0	11030.4	12666.6
65°	5740.2	5724.0	5830.2	6021.0	6292.8	6681.6	7209.0	8051.4	9367.2	11260.8	13581.0
66°	5509.8	5477.4	5583.6	5776.2	6048.0	6462.0	6967.8	7799.4	9091.8	11035.8	13483.8
67.5°	5106.6	5090.4	5140.8	5292.0	5493.6	5882.4	6409.8	7246.8	8440.2	10359.0	12771.0
70°	4150.8	4114.8	4154.4	4222.8	4300.2	4395.6	4719.6	5383.8	6393.6	8253.0	10288.8
72.5°	2827.8	2809.8	2883.6	2988.0	3195.0	3292.2	3420.0	3528.0	3884.4	5202.0	7176.6
75°	2151.0	2161.8	2255.4	2428.2	2694.6	2982.6	3263.4	3366.0	3247.2	3144.6	4073.4
77.5°	1206.0	1269.0	1382.4	1602.0	1884.6	2291.4	2781.0	3321.0	3591.0	3524.4	3295.8
80°	496.8	487.8	543.6	664.2	761.4	1094.4	1674.0	2350.8	3110.4	3591.0	3515.4
82.5°	138.6	142.2	183.6	235.8	304.2	387.0	604.8	972.0	1584.0	2464.2	3225.6
85°	43.2	43.2	59.4	88.2	104.4	120.6	153.0	252.0	430.2	858.6	1740.6
87.5°	9.0	9.0	12.6	25.2	27.0	27.0	34.2	46.8	41.4	37.8	169.2
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: P159590

CATALOG NUMBER: VST-E09-LED-E-U-T3

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°	100°
0°	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0
2.5°	2968.2	2964.6	2966.4	2968.2	2966.4	2966.4	2964.6	2962.8	2964.6	2964.6	2970.0
5°	2966.4	2964.6	2966.4	2966.4	2966.4	2968.2	2968.2	2968.2	2973.6	2973.6	2982.6
7.5°	2970.0	2970.0	2973.6	2973.6	2973.6	2973.6	2975.4	2979.0	2988.0	2986.2	3002.4
10°	2977.2	2980.8	2989.8	2991.6	2991.6	2997.0	3000.6	3007.8	3016.8	3020.4	3034.8
12.5°	2986.2	3004.2	3020.4	3024.0	3029.4	3038.4	3043.8	3047.4	3063.6	3069.0	3087.0
15°	2997.0	3022.2	3042.0	3049.2	3056.4	3067.2	3074.4	3079.8	3094.2	3101.4	3123.0
17.5°	2998.8	3027.6	3051.0	3061.8	3070.8	3083.4	3094.2	3105.0	3121.2	3132.0	3153.6
20°	2997.0	3034.8	3070.8	3085.2	3094.2	3117.6	3133.8	3148.2	3168.0	3178.8	3200.4
22.5°	3016.8	3060.0	3108.6	3126.6	3141.0	3173.4	3195.0	3218.4	3243.6	3250.8	3267.0
25°	3063.6	3108.6	3169.8	3195.0	3220.2	3263.4	3294.0	3328.2	3353.4	3357.0	3362.4
27.5°	3142.8	3184.2	3258.0	3295.8	3337.2	3398.4	3443.4	3477.6	3513.6	3513.6	3510.0
30°	3303.0	3312.0	3389.4	3438.0	3499.2	3589.2	3655.8	3693.6	3720.6	3720.6	3690.0
32.5°	3510.0	3499.2	3569.4	3621.6	3706.2	3832.2	3922.2	3951.0	3979.8	3970.8	3918.6
35°	3808.8	3778.2	3817.8	3897.0	3992.4	4165.2	4258.8	4323.6	4341.6	4316.4	4233.6
37.5°	4185.0	4181.4	4201.2	4289.4	4395.6	4618.8	4714.2	4755.6	4741.2	4696.2	4550.4
40°	4582.8	4572.0	4559.4	4618.8	4737.6	5005.8	5175.0	5196.6	5176.8	5110.2	4926.6
42.5°	5113.8	5113.8	5054.4	5070.6	5169.6	5470.2	5670.0	5738.4	5740.2	5643.0	5398.2
45°	5844.6	5837.4	5733.0	5707.8	5783.4	6078.6	6336.0	6373.8	6373.8	6246.0	5977.8
47.5°	6723.0	6714.0	6611.4	6523.2	6537.6	6856.2	7070.4	7128.0	7077.6	6982.2	6663.6
50°	7713.0	7696.8	7592.4	7509.6	7473.6	7795.8	7977.6	8004.6	7930.8	7817.4	7471.8
52.5°	8717.4	8766.0	8704.8	8659.8	8672.4	8881.2	9068.4	8940.6	8902.8	8780.4	8433.0
55°	9763.2	9912.6	10047.6	10008.0	10054.8	10258.2	10294.2	10125.0	10056.6	9968.4	9581.4
57.5°	10816.2	11251.8	11694.6	11818.8	11934.0	12225.6	12184.2	11907.0	11959.2	12090.6	11655.0
60°	12286.8	13545.0	14668.2	14875.2	15233.4	15481.8	15537.6	15483.6	15726.6	15658.2	15273.0
62.5°	14545.8	16642.8	18205.2	18594.0	18954.0	18941.4	18752.4	18558.0	18797.4	18797.4	17791.2
65°	16158.6	18538.2	20210.4	20532.6	20518.2	20084.4	19638.0	19249.2	19215.0	18948.6	17478.0
66°	16234.2	18684.0	20322.0	20602.8	20494.8	19796.4	19261.8	18768.6	18558.0	18187.2	16680.6
67.5°	15553.8	18271.8	19958.4	20203.2	19918.8	18918.0	18181.8	17521.2	17215.2	16590.6	15172.2
70°	12758.4	15703.2	18156.6	18657.0	18334.8	17067.6	16059.6	15166.8	14581.8	13680.0	12657.6
72.5°	9313.2	11593.8	14250.6	15064.2	15013.8	13847.4	13035.6	12218.4	11449.8	10629.0	9882.0
75°	6053.4	7542.0	9023.4	9498.6	9270.0	8595.0	8013.6	7536.6	6807.6	6237.0	6098.4
77.5°	3456.0	4222.8	3994.2	3934.8	3648.6	2944.8	1958.4	1373.4	1240.2	1548.0	1697.4
80°	3288.6	2980.8	2440.8	2201.4	2023.2	1378.8	723.6	509.4	446.4	457.2	491.4
82.5°	3708.0	3864.6	3160.8	2640.6	2298.6	1677.6	916.2	426.6	311.4	369.0	414.0
85°	2779.2	3913.2	3879.0	3286.8	2696.4	1933.2	1083.6	325.8	187.2	259.2	338.4
87.5°	563.4	927.0	892.8	784.8	667.8	466.2	181.8	102.6	93.6	127.8	194.4
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: P159590

CATALOG NUMBER: VST-E09-LED-E-U-T3

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0	2970.0
2.5°	2973.6	2973.6	2977.2	2982.6	2984.4	2984.4	2988.0	2984.4	2991.6	2993.4	2995.2
5°	2989.8	2995.2	2998.8	3007.8	3013.2	3016.8	3022.2	3018.6	3025.8	3027.6	3031.2
7.5°	3007.8	3016.8	3024.0	3027.6	3034.8	3034.8	3036.6	3033.0	3031.2	3025.8	3024.0
10°	3040.2	3045.6	3054.6	3051.0	3047.4	3034.8	3024.0	3007.8	2998.8	2982.6	2973.6
12.5°	3092.4	3096.0	3096.0	3079.8	3056.4	3027.6	3000.6	2973.6	2952.0	2934.0	2923.2
15°	3128.4	3135.6	3126.6	3103.2	3069.0	3029.4	2993.4	2957.4	2928.6	2905.2	2890.8
17.5°	3155.4	3153.6	3137.4	3105.0	3072.6	3038.4	3006.0	2968.2	2932.2	2898.0	2876.4
20°	3196.8	3178.8	3150.0	3115.8	3081.6	3052.8	3027.6	2991.6	2953.8	2907.0	2874.6
22.5°	3252.6	3220.2	3178.8	3142.8	3110.4	3083.4	3054.6	3024.0	2984.4	2932.2	2887.2
25°	3331.8	3276.0	3229.2	3193.2	3164.4	3133.8	3101.4	3061.8	3022.2	2968.2	2914.2
27.5°	3452.4	3369.6	3310.2	3277.8	3250.8	3209.4	3168.0	3121.2	3070.8	3015.0	2953.8
30°	3598.2	3499.2	3430.8	3402.0	3369.6	3322.8	3277.8	3213.0	3142.8	3076.2	3000.6
32.5°	3769.2	3668.4	3600.0	3578.4	3526.2	3472.2	3409.2	3322.8	3231.0	3132.0	3042.0
35°	4028.4	3900.6	3837.6	3787.2	3715.2	3650.4	3544.2	3430.8	3299.4	3168.0	3056.4
37.5°	4294.8	4165.2	4100.4	4030.2	3936.6	3817.8	3675.6	3513.6	3339.0	3177.0	3040.2
40°	4651.2	4510.8	4428.0	4320.0	4168.8	3983.4	3772.8	3551.4	3339.0	3137.4	2971.8
42.5°	5067.0	4937.4	4809.6	4631.4	4388.4	4118.4	3823.2	3538.8	3281.4	3049.2	2874.6
45°	5643.0	5421.6	5218.2	4932.0	4577.4	4197.6	3828.6	3479.4	3182.4	2925.0	2730.6
47.5°	6291.0	6004.8	5644.8	5196.6	4712.4	4228.2	3776.4	3367.8	3025.8	2746.8	2534.4
50°	7038.0	6598.8	6046.2	5407.2	4780.8	4186.8	3652.2	3180.6	2809.8	2489.4	2262.6
52.5°	7893.0	7223.4	6409.8	5556.6	4770.0	4060.8	3447.0	2934.0	2520.0	2179.8	1956.6
55°	8841.6	7903.8	6757.2	5652.0	4672.8	3816.0	3124.8	2586.6	2160.0	1825.2	1629.0
57.5°	10513.8	9097.2	7419.6	5779.8	4469.4	3445.2	2716.2	2147.4	1762.2	1477.8	1290.6
60°	13620.6	11183.4	8674.2	6080.4	4163.4	2980.8	2201.4	1684.8	1362.6	1155.6	1017.0
62.5°	15543.0	12652.2	9286.2	6037.2	3666.6	2345.4	1634.4	1249.2	995.4	858.6	772.2
65°	15087.6	12076.2	8539.2	5185.8	2853.0	1663.2	1081.8	817.2	684.0	613.8	572.4
66°	14468.4	11431.8	7907.4	4644.0	2485.8	1389.6	892.8	685.8	588.6	536.4	514.8
67.5°	13170.6	10254.6	6820.2	3718.8	1863.0	1035.0	658.8	538.2	478.8	451.8	437.4
70°	11023.2	8262.0	4824.0	2196.0	1009.8	561.6	421.2	374.4	360.0	351.0	345.6
72.5°	8523.0	5981.4	2818.8	1080.0	509.4	363.6	320.4	300.6	295.2	295.2	297.0
75°	5369.4	3438.0	1261.8	520.2	345.6	293.4	273.6	264.6	266.4	268.2	266.4
77.5°	1783.8	1186.2	525.6	369.0	300.6	266.4	250.2	246.6	250.2	252.0	252.0
80°	513.0	448.2	379.8	325.8	275.4	248.4	234.0	232.2	241.2	243.0	239.4
82.5°	394.2	369.0	343.8	315.0	264.6	234.0	228.6	230.4	235.8	232.2	216.0
85°	361.8	358.2	257.4	255.6	230.4	223.2	217.8	219.6	214.2	194.4	176.4
87.5°	203.4	189.0	145.8	147.6	171.0	176.4	145.8	154.8	144.0	126.0	115.2
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: P159590

CATALOG NUMBER: VST-E09-LED-E-U-T3

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	2970.0	2970.0	2970.0	2970.0	2970.0
2.5°	2998.8	2997.0	2997.0	3002.4	2995.2
5°	3033.0	3031.2	3031.2	3036.6	3031.2
7.5°	3016.8	3011.4	3007.8	3006.0	3006.0
10°	2962.8	2957.4	2946.6	2943.0	2939.4
12.5°	2907.0	2901.6	2889.0	2889.0	2885.4
15°	2872.8	2865.6	2856.6	2851.2	2847.6
17.5°	2854.8	2844.0	2833.2	2827.8	2824.2
20°	2847.6	2833.2	2820.6	2811.6	2811.6
22.5°	2849.4	2831.4	2817.0	2806.2	2802.6
25°	2867.4	2840.4	2822.4	2811.6	2808.0
27.5°	2892.6	2860.2	2836.8	2822.4	2817.0
30°	2926.8	2881.8	2849.4	2831.4	2824.2
32.5°	2950.2	2887.2	2845.8	2820.6	2811.6
35°	2948.4	2867.4	2817.0	2784.6	2773.8
37.5°	2916.0	2820.6	2754.0	2714.4	2696.4
40°	2844.0	2734.2	2664.0	2626.2	2604.6
42.5°	2739.6	2620.8	2557.8	2516.4	2493.0
45°	2575.8	2458.8	2381.4	2349.0	2318.4
47.5°	2349.0	2230.2	2163.6	2116.8	2097.0
50°	2082.6	1963.8	1893.6	1855.8	1837.8
52.5°	1791.0	1677.6	1627.2	1591.2	1566.0
55°	1488.6	1384.2	1362.6	1323.0	1299.6
57.5°	1204.2	1143.0	1123.2	1083.6	1063.8
60°	941.4	921.6	900.0	874.8	864.0
62.5°	729.0	711.0	705.6	689.4	687.6
65°	556.2	558.0	554.4	550.8	547.2
66°	505.8	504.0	505.8	502.2	500.4
67.5°	430.2	437.4	442.8	441.0	441.0
70°	349.2	354.6	361.8	360.0	360.0
72.5°	298.8	307.8	311.4	309.6	309.6
75°	270.0	279.0	279.0	275.4	273.6
77.5°	252.0	255.6	252.0	248.4	244.8
80°	234.0	230.4	225.0	219.6	216.0
82.5°	203.4	194.4	189.0	180.0	180.0
85°	163.8	156.6	144.0	135.0	126.0
87.5°	106.2	102.6	93.6	70.2	55.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)