

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: P159814

Luminaire Tested: **VST-F09-LED-E-U-T4-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P159814
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33707)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: VST-F09-LED-E-U-T4-7030
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(9) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (63) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20197.4 lumens
Efficiency: N/A
Efficacy: 86.0 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 234.8
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

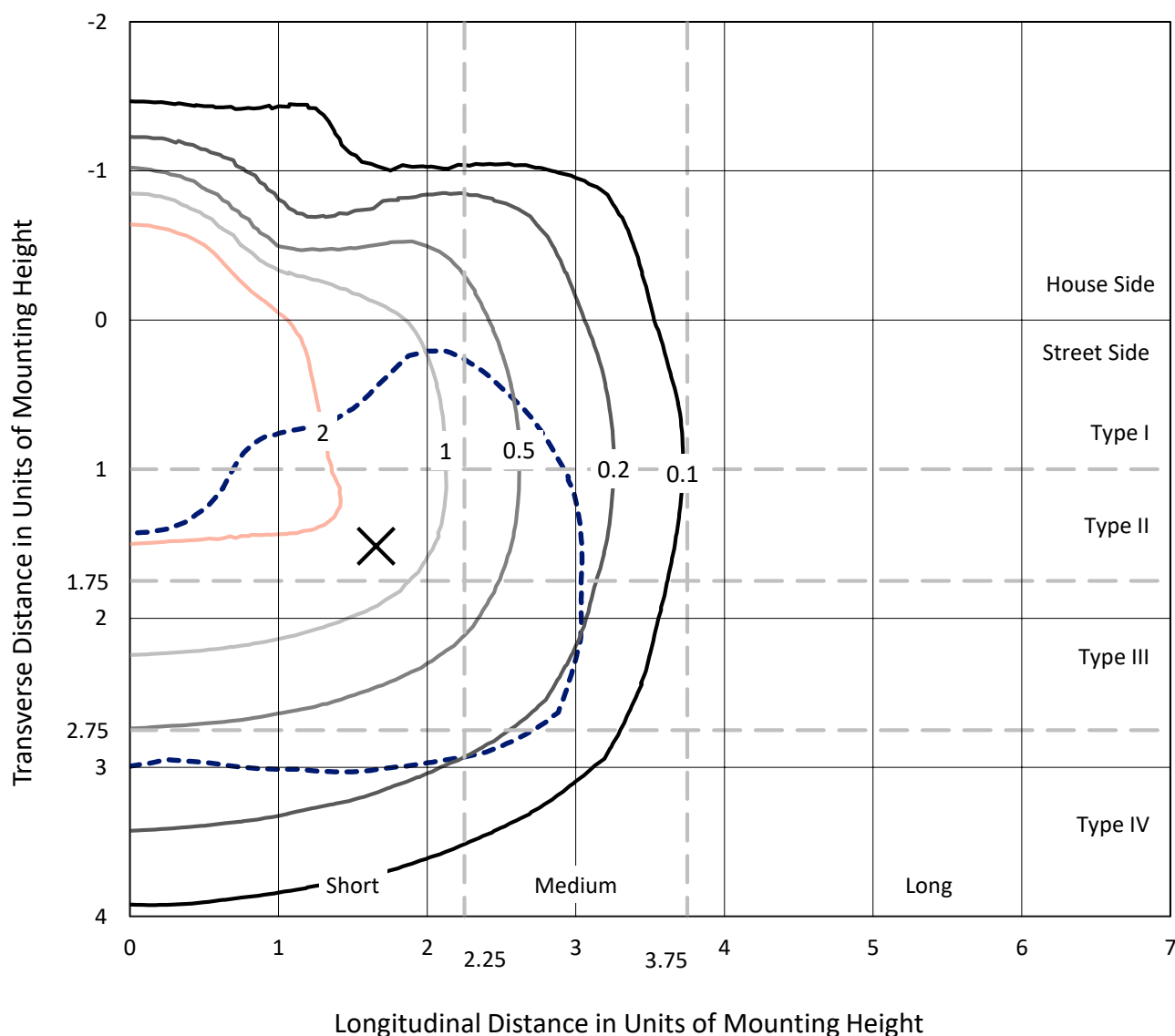


REPORT NUMBER: P159814

CATALOG NUMBER: VST-F09-LED-E-U-T4-7030

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 --- 1/2 Max cd

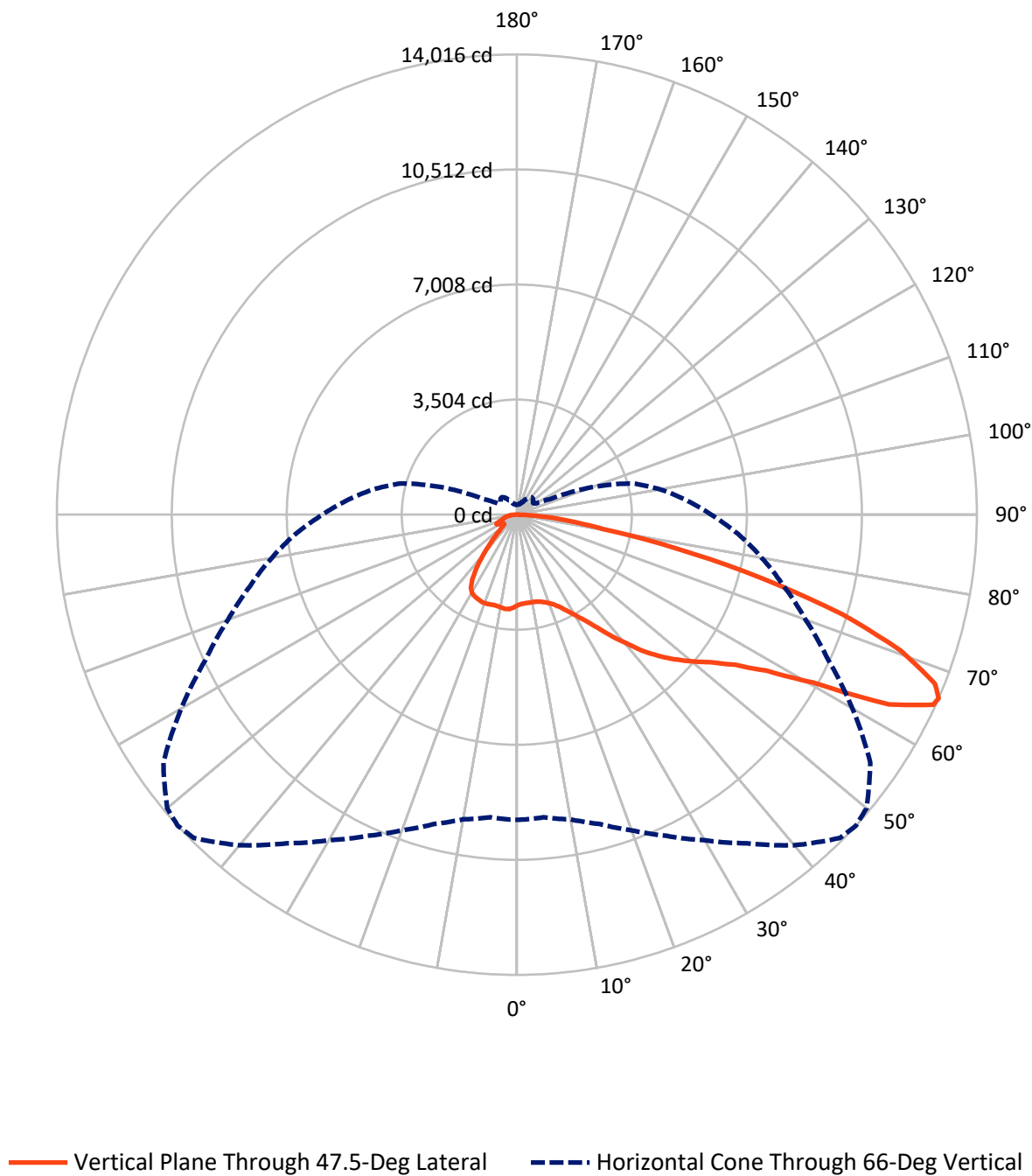


Based on 25 foot mounting height. Maximum calculated value = 4.5 fc
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P159814

CATALOG NUMBER: VST-F09-LED-E-U-T4-7030

Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4181.8	0.0	4181.8
	% Fixture	20.7	0.0	20.7
Street Side	Lumens	16015.6	0.0	16015.6
	% Fixture	79.3	0.0	79.3
Total	Lumens	20197.4	0.0	20197.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	266.3	1.3
10°-20°	798.7	4.0
20°-30°	1362.7	6.7
30°-40°	2056.8	10.2
40°-50°	2673.4	13.2
50°-60°	3667.6	18.2
60°-70°	5642.0	27.9
70°-80°	3261.4	16.1
80°-90°	468.5	2.3
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°	20197.4	100.0
0°-180°	20197.4	100.0

Coefficient of Utilization



REPORT NUMBER: P159814

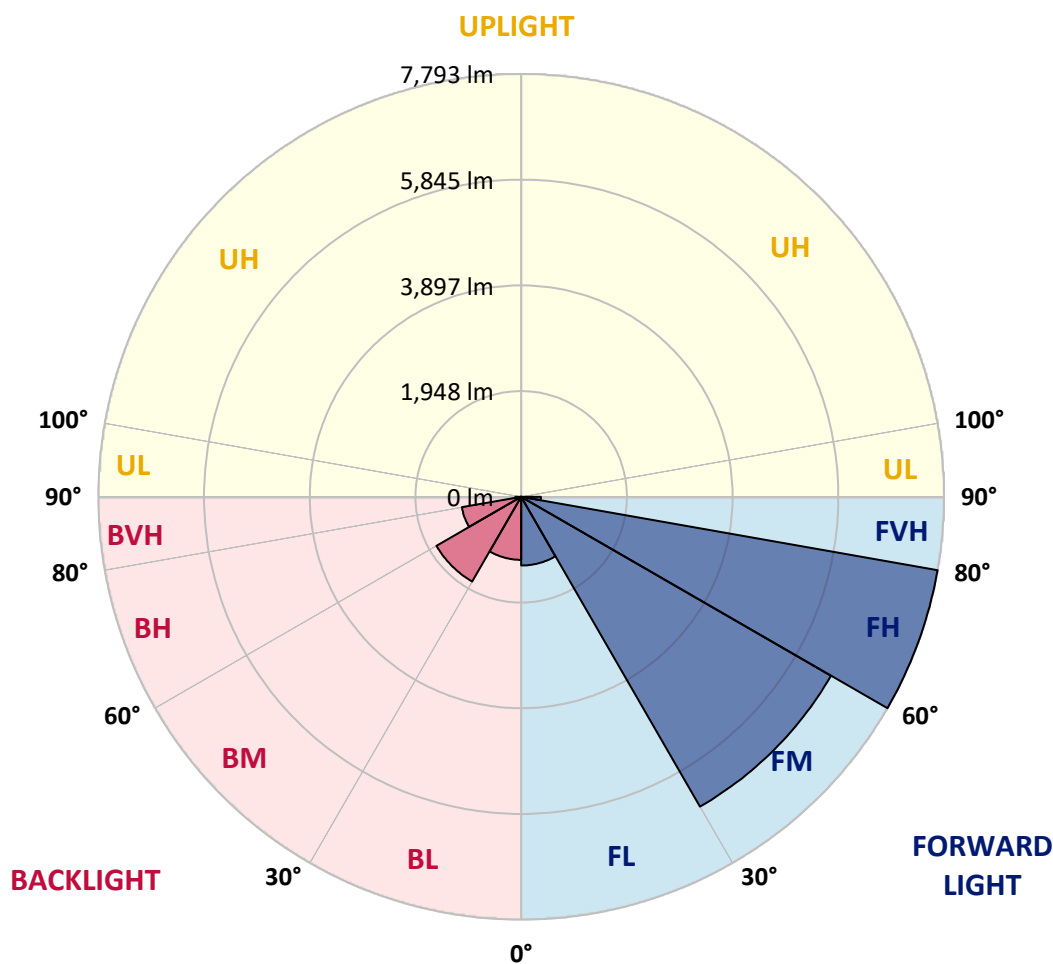
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1266.0	6.3			
FM	(30°-60°)	6593.6	32.6			
FH	(60°-80°)	7793.5	38.6			G4/12000
FVH	(80°-90°)	362.6	1.8			G3/500
BL	(0°-30°)	1161.7	5.8	B3/2500		
BM	(30°-60°)	1804.2	8.9	B2/2500		
BH	(60°-80°)	1109.9	5.5	B3/2500		G3/2500
BVH	(80°-90°)	105.9	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: P159814

CATALOG NUMBER: VST-F09-LED-E-U-T4-7030

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	47.5°
0°	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2
2.5°	2692.7	2694.0	2695.4	2695.4	2699.4	2699.4	2706.2	2710.3	2711.7	2719.8	2725.2
5°	2642.4	2641.1	2642.4	2645.2	2651.9	2657.4	2670.9	2680.4	2688.6	2702.2	2708.9
7.5°	2620.7	2623.4	2626.2	2627.5	2632.9	2646.5	2658.7	2668.2	2684.5	2700.8	2707.6
10°	2649.2	2653.3	2649.2	2651.9	2651.9	2664.2	2669.6	2676.4	2688.6	2703.5	2707.6
12.5°	2715.7	2723.9	2715.7	2708.9	2703.5	2714.4	2711.7	2706.2	2713.0	2717.1	2717.1
15°	2825.7	2825.7	2820.2	2810.7	2797.2	2798.5	2786.3	2774.1	2768.7	2759.2	2752.4
17.5°	2932.9	2930.2	2918.0	2905.7	2896.2	2892.2	2874.5	2858.2	2839.2	2824.3	2808.0
20°	3037.4	3048.2	3033.3	3015.7	3000.7	2991.2	2977.7	2945.1	2922.0	2897.6	2881.3
22.5°	3217.9	3208.4	3192.1	3166.3	3151.4	3135.1	3106.6	3071.3	3036.0	3006.2	2985.8
25°	3403.8	3394.3	3371.3	3352.3	3330.5	3317.0	3285.8	3242.3	3208.4	3162.2	3135.1
27.5°	3603.3	3595.2	3568.0	3553.1	3538.2	3521.9	3494.8	3450.0	3418.8	3365.8	3337.3
30°	3828.6	3827.3	3790.6	3787.9	3766.2	3748.6	3729.6	3691.6	3660.3	3607.4	3573.5
32.5°	4068.9	4063.4	4037.6	4029.5	4044.4	4032.2	4005.1	3965.7	3925.0	3893.8	3855.8
35°	4410.9	4401.4	4386.4	4393.2	4402.7	4436.6	4394.6	4360.6	4311.8	4271.1	4218.1
37.5°	4660.6	4647.0	4664.7	4702.7	4756.9	4782.7	4819.4	4820.7	4797.7	4743.4	4697.2
40°	4889.9	4884.5	4925.2	4978.2	5078.6	5151.9	5221.1	5255.0	5263.2	5227.9	5158.7
42.5°	5084.0	5100.3	5154.6	5236.0	5377.2	5488.5	5617.4	5697.5	5747.7	5728.7	5697.5
45°	5314.7	5322.9	5389.4	5492.5	5626.9	5811.5	5981.1	6116.8	6205.1	6203.7	6168.4
47.5°	5603.8	5605.2	5662.2	5783.0	5926.8	6114.1	6328.6	6509.1	6625.8	6631.2	6604.1
50°	5947.2	5944.5	6006.9	6120.9	6274.3	6454.8	6682.8	6908.1	7071.0	7071.0	7031.6
52.5°	6389.6	6384.2	6418.1	6518.6	6666.5	6856.5	7083.2	7343.7	7520.2	7558.2	7472.7
55°	6980.0	6988.2	6996.3	7084.5	7210.7	7361.4	7622.0	7862.2	8098.3	8120.1	8069.8
57.5°	7662.7	7635.5	7693.9	7837.8	7981.6	8170.3	8354.9	8638.5	8918.1	8965.6	8958.8
60°	8729.4	8694.1	8753.9	8937.1	9095.9	9393.1	9709.3	10075.8	10406.9	10504.6	10386.6
62.5°	9710.7	9754.1	9835.5	10048.6	10279.3	10675.6	11150.7	11779.0	12407.4	12749.4	12725.0
65°	9622.5	9581.7	9737.8	10028.3	10446.3	10951.2	11541.5	12298.8	13204.1	13890.8	13951.9
66°	9295.4	9253.3	9421.6	9754.1	10231.8	10793.7	11449.2	12220.1	13145.7	13922.0	14015.7
67.5°	8755.2	8713.1	8903.2	9205.8	9698.5	10405.6	11114.0	11956.8	12919.1	13662.8	13738.8
70°	7712.9	7655.9	7803.8	8145.8	8544.9	9228.9	9903.4	10796.4	11784.5	12378.9	12407.4
72.5°	6533.5	6400.5	6557.9	6821.2	7106.2	7672.2	8259.8	8870.6	9657.8	10207.4	10364.8
75°	4740.7	4809.9	4856.0	5029.7	5218.4	5686.6	6031.3	6543.0	7152.4	7550.0	7676.3
77.5°	2514.9	2619.4	2684.5	2858.2	3170.4	3527.3	3900.6	4216.8	4617.2	4839.7	4994.5
80°	1411.5	1484.8	1590.6	1727.7	1879.7	2153.9	2375.1	2537.9	2594.9	2634.3	2669.6
82.5°	776.3	962.2	1119.7	1214.7	1304.3	1414.2	1545.8	1681.6	1725.0	1659.8	1625.9
85°	120.8	177.8	541.5	661.0	719.3	803.5	898.5	998.9	1000.2	860.5	939.2
87.5°	33.9	38.0	77.4	116.7	114.0	92.3	114.0	207.6	122.1	61.1	70.6
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: P159814

CATALOG NUMBER: VST-F09-LED-E-U-T4-7030

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2
2.5°	2727.9	2730.7	2737.4	2744.2	2751.0	2757.8	2761.9	2768.7	2774.1	2782.2	2791.7
5°	2717.1	2723.9	2736.1	2751.0	2764.6	2776.8	2786.3	2799.9	2812.1	2823.0	2839.2
7.5°	2717.1	2730.7	2751.0	2767.3	2779.5	2794.5	2809.4	2823.0	2836.5	2847.4	2858.2
10°	2718.4	2732.0	2752.4	2771.4	2785.0	2801.2	2813.5	2825.7	2840.6	2847.4	2861.0
12.5°	2723.9	2729.3	2744.2	2763.2	2779.5	2795.8	2808.0	2820.2	2836.5	2839.2	2848.7
15°	2751.0	2742.9	2746.9	2760.5	2778.2	2791.7	2805.3	2814.8	2825.7	2823.0	2831.1
17.5°	2801.2	2780.9	2772.7	2774.1	2782.2	2791.7	2797.2	2798.5	2799.9	2787.7	2789.0
20°	2869.1	2840.6	2821.6	2812.1	2801.2	2791.7	2776.8	2759.2	2742.9	2718.4	2715.7
22.5°	2970.9	2928.8	2908.5	2882.7	2850.1	2809.4	2772.7	2729.3	2694.0	2657.4	2643.8
25°	3118.8	3075.4	3053.7	3013.0	2954.6	2896.2	2843.3	2785.0	2733.4	2689.9	2669.6
27.5°	3317.0	3273.5	3250.5	3208.4	3136.5	3078.1	3004.8	2942.4	2880.0	2816.2	2790.4
30°	3557.2	3519.2	3493.4	3459.5	3397.0	3333.3	3247.8	3151.4	3052.3	2950.5	2900.3
32.5°	3840.8	3798.8	3779.8	3740.4	3675.3	3608.8	3513.8	3390.3	3224.7	3064.5	2964.1
35°	4195.1	4147.6	4125.9	4074.3	3998.3	3900.6	3798.8	3633.2	3409.3	3186.7	3022.5
37.5°	4668.7	4562.9	4490.9	4372.9	4250.7	4113.6	3968.4	3798.8	3534.1	3258.6	3030.6
40°	5088.1	4980.9	4842.4	4672.8	4482.8	4294.1	4128.6	3935.8	3648.1	3310.2	3004.8
42.5°	5609.3	5419.3	5198.0	4968.7	4716.2	4484.1	4287.4	4060.7	3725.5	3323.8	2932.9
45°	6085.6	5859.0	5563.1	5257.7	4944.2	4652.4	4431.2	4178.8	3792.0	3323.8	2846.0
47.5°	6519.9	6248.5	5894.3	5514.3	5149.2	4830.2	4579.2	4299.6	3885.6	3365.8	2820.2
50°	6921.7	6609.5	6206.4	5765.3	5355.5	5014.8	4744.7	4454.3	4028.1	3474.4	2882.7
52.5°	7345.1	7013.9	6522.6	6054.4	5602.5	5237.4	4949.7	4645.7	4212.7	3645.4	2992.6
55°	7900.2	7512.0	6954.2	6438.5	5941.8	5538.7	5211.6	4875.0	4414.9	3838.1	3127.0
57.5°	8775.6	8212.3	7654.5	6984.1	6515.9	5985.2	5626.9	5240.1	4743.4	4089.2	3329.2
60°	10307.8	9615.7	8945.2	8174.3	7596.2	7041.1	6499.6	5994.7	5396.2	4656.5	3773.0
62.5°	12495.6	11792.6	10739.4	9796.2	8923.5	8187.9	7482.2	6840.2	6072.1	5263.2	4319.9
65°	13802.6	12997.8	11742.4	10474.8	9414.8	8502.8	7695.3	6909.4	6080.2	5291.7	4485.5
66°	13907.1	13145.7	11804.8	10465.3	9364.6	8418.6	7578.5	6765.6	5916.0	5161.4	4431.2
67.5°	13713.0	13057.5	11677.2	10280.7	9155.6	8133.6	7270.5	6418.1	5564.5	4865.5	4250.7
70°	12343.6	11870.0	10686.5	9378.2	8255.8	7354.6	6443.9	5624.2	4815.3	4227.6	3771.6
72.5°	10119.2	9519.3	8691.4	7812.0	6928.4	6129.1	5301.2	4603.6	3925.0	3497.5	3174.5
75°	7433.3	6893.2	5981.1	5432.8	4849.2	4347.1	3789.3	3128.3	2646.5	2432.1	2353.4
77.5°	4712.2	4125.9	3356.3	2751.0	2365.6	2033.1	1602.8	1274.4	1020.6	1062.7	1176.7
80°	2380.5	2050.7	1535.0	1212.0	1047.7	871.3	689.5	522.5	381.4	435.7	492.7
82.5°	1528.2	1275.8	1016.5	800.7	675.9	595.8	476.4	346.1	257.9	290.4	355.6
85°	920.2	777.7	620.2	507.6	441.1	367.8	270.1	191.4	190.0	203.6	251.1
87.5°	139.8	199.5	115.4	123.5	130.3	139.8	123.5	104.5	90.9	118.1	149.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2	2763.2
2.5°	2801.2	2804.0	2809.4	2816.2	2814.8	2824.3	2829.7	2824.3	2836.5	2836.5	2843.3
5°	2852.8	2856.9	2866.4	2873.2	2875.9	2884.0	2886.7	2885.4	2888.1	2889.5	2892.2
7.5°	2867.7	2878.6	2882.7	2886.7	2888.1	2890.8	2890.8	2888.1	2888.1	2886.7	2889.5
10°	2863.7	2867.7	2870.5	2869.1	2869.1	2866.4	2865.0	2863.7	2863.7	2861.0	2865.0
12.5°	2850.1	2850.1	2850.1	2847.4	2847.4	2846.0	2846.0	2846.0	2848.7	2850.1	2856.9
15°	2823.0	2823.0	2825.7	2824.3	2828.4	2835.2	2843.3	2848.7	2855.5	2856.9	2861.0
17.5°	2780.9	2782.2	2790.4	2808.0	2825.7	2846.0	2861.0	2865.0	2859.6	2846.0	2836.5
20°	2707.6	2725.2	2757.8	2799.9	2839.2	2865.0	2871.8	2855.5	2829.7	2794.5	2775.4
22.5°	2642.4	2677.7	2736.1	2805.3	2854.2	2871.8	2851.5	2813.5	2767.3	2726.6	2698.1
25°	2668.2	2708.9	2770.0	2829.7	2861.0	2851.5	2810.7	2756.4	2707.6	2660.1	2613.9
27.5°	2776.8	2817.5	2861.0	2878.6	2867.7	2832.5	2775.4	2717.1	2651.9	2584.1	2527.1
30°	2880.0	2903.0	2905.7	2888.1	2848.7	2791.7	2725.2	2657.4	2574.6	2493.2	2421.2
32.5°	2912.5	2885.4	2836.5	2786.3	2732.0	2673.7	2596.3	2506.7	2418.5	2326.2	2246.1
35°	2903.0	2793.1	2672.3	2565.1	2499.9	2433.4	2362.9	2243.4	2144.4	2065.6	2014.1
37.5°	2817.5	2616.7	2430.7	2274.6	2172.9	2094.1	1989.6	1890.6	1805.1	1769.8	1727.7
40°	2698.1	2391.4	2133.5	1915.0	1809.1	1708.7	1592.0	1516.0	1491.5	1459.0	1460.3
42.5°	2527.1	2128.1	1795.6	1544.5	1429.1	1319.2	1236.4	1191.6	1193.0	1165.8	1171.3
45°	2346.6	1863.4	1445.4	1195.7	1081.7	988.0	941.9	928.3	929.7	931.0	922.9
47.5°	2236.6	1657.1	1159.0	906.6	806.2	753.2	728.8	722.0	723.4	724.7	715.2
50°	2220.4	1549.9	967.7	693.5	628.4	598.5	586.3	579.5	579.5	574.1	565.9
52.5°	2266.5	1522.8	874.0	601.2	538.8	511.7	502.2	496.7	488.6	477.7	462.8
55°	2339.8	1547.2	845.5	570.0	508.9	481.8	469.6	466.9	453.3	432.9	408.5
57.5°	2475.5	1635.4	864.5	578.2	514.4	489.9	481.8	479.1	460.1	428.9	397.7
60°	2865.0	1891.9	959.5	624.3	553.7	533.4	533.4	529.3	503.5	458.7	413.9
62.5°	3402.5	2267.9	1088.5	688.1	608.0	605.3	628.4	629.7	583.6	511.7	441.1
65°	3661.7	2444.3	1133.3	701.7	622.9	654.2	700.3	700.3	635.2	536.1	445.2
66°	3663.1	2440.2	1119.7	685.4	606.7	647.4	694.9	694.9	627.0	529.3	438.4
67.5°	3569.4	2364.2	1074.9	655.5	570.0	608.0	650.1	648.7	587.7	502.2	419.4
70°	3201.6	2091.4	947.3	606.7	526.6	527.9	542.9	533.4	492.7	434.3	381.4
72.5°	2760.5	1749.4	821.1	575.4	492.7	466.9	454.7	446.5	420.7	385.4	352.9
75°	2117.2	1358.5	715.2	546.9	462.8	418.0	401.7	394.9	377.3	356.9	331.2
77.5°	1297.5	931.0	606.7	500.8	428.9	388.2	370.5	356.9	339.3	320.3	302.7
80°	559.2	561.9	485.9	424.8	373.2	325.7	302.7	286.4	276.9	270.1	260.6
82.5°	390.9	403.1	370.5	329.8	285.0	251.1	230.7	226.7	228.0	228.0	225.3
85°	293.2	287.7	259.2	236.2	215.8	194.1	177.8	176.4	181.9	181.9	177.8
87.5°	169.6	171.0	146.6	137.1	142.5	122.1	111.3	112.6	126.2	124.9	122.1
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: P159814

CATALOG NUMBER: VST-F09-LED-E-U-T4-7030

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	2763.2	2763.2	2763.2	2763.2	2763.2
2.5°	2843.3	2847.4	2846.0	2850.1	2846.0
5°	2896.2	2894.9	2893.5	2899.0	2892.2
7.5°	2888.1	2889.5	2889.5	2889.5	2888.1
10°	2867.7	2873.2	2875.9	2881.3	2880.0
12.5°	2861.0	2869.1	2877.2	2885.4	2886.7
15°	2862.3	2867.7	2871.8	2875.9	2877.2
17.5°	2827.0	2825.7	2821.6	2818.9	2816.2
20°	2755.1	2748.3	2741.5	2730.7	2736.1
22.5°	2665.5	2646.5	2624.8	2607.2	2605.8
25°	2561.0	2525.7	2490.4	2467.4	2459.2
27.5°	2468.7	2426.7	2390.0	2369.7	2364.2
30°	2358.8	2320.8	2288.2	2270.6	2259.7
32.5°	2195.9	2166.1	2125.4	2111.8	2110.4
35°	1969.3	1946.2	1917.7	1912.3	1905.5
37.5°	1712.8	1704.6	1691.1	1674.8	1672.1
40°	1438.6	1444.0	1440.0	1430.5	1415.5
42.5°	1174.0	1183.5	1184.8	1191.6	1198.4
45°	935.1	943.2	943.2	950.0	958.2
47.5°	718.0	712.5	716.6	723.4	727.5
50°	542.9	538.8	532.0	526.6	521.2
52.5°	437.0	428.9	409.9	404.4	399.0
55°	385.4	370.5	356.9	351.5	351.5
57.5°	370.5	351.5	336.6	329.8	327.1
60°	373.2	346.1	327.1	316.2	312.2
62.5°	385.4	347.4	321.7	309.4	305.4
65°	384.1	344.7	320.3	306.7	302.7
66°	377.3	340.7	317.6	305.4	302.7
67.5°	366.4	335.2	314.9	304.0	299.9
70°	344.7	324.4	309.4	299.9	295.9
72.5°	327.1	313.5	299.9	289.1	286.4
75°	310.8	297.2	285.0	279.6	275.5
77.5°	286.4	274.2	267.4	261.9	259.2
80°	253.8	245.7	237.5	232.1	228.0
82.5°	221.2	210.4	202.2	198.1	195.4
85°	180.5	173.7	161.5	153.4	152.0
87.5°	120.8	114.0	109.9	103.1	96.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)