

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: P159816

Luminaire Tested: **VST-F09-LED-E-U-T4-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P159816
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-T4-7050
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(9) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (63) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22690.8 lumens
Efficiency: N/A
Efficacy: 96.6 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



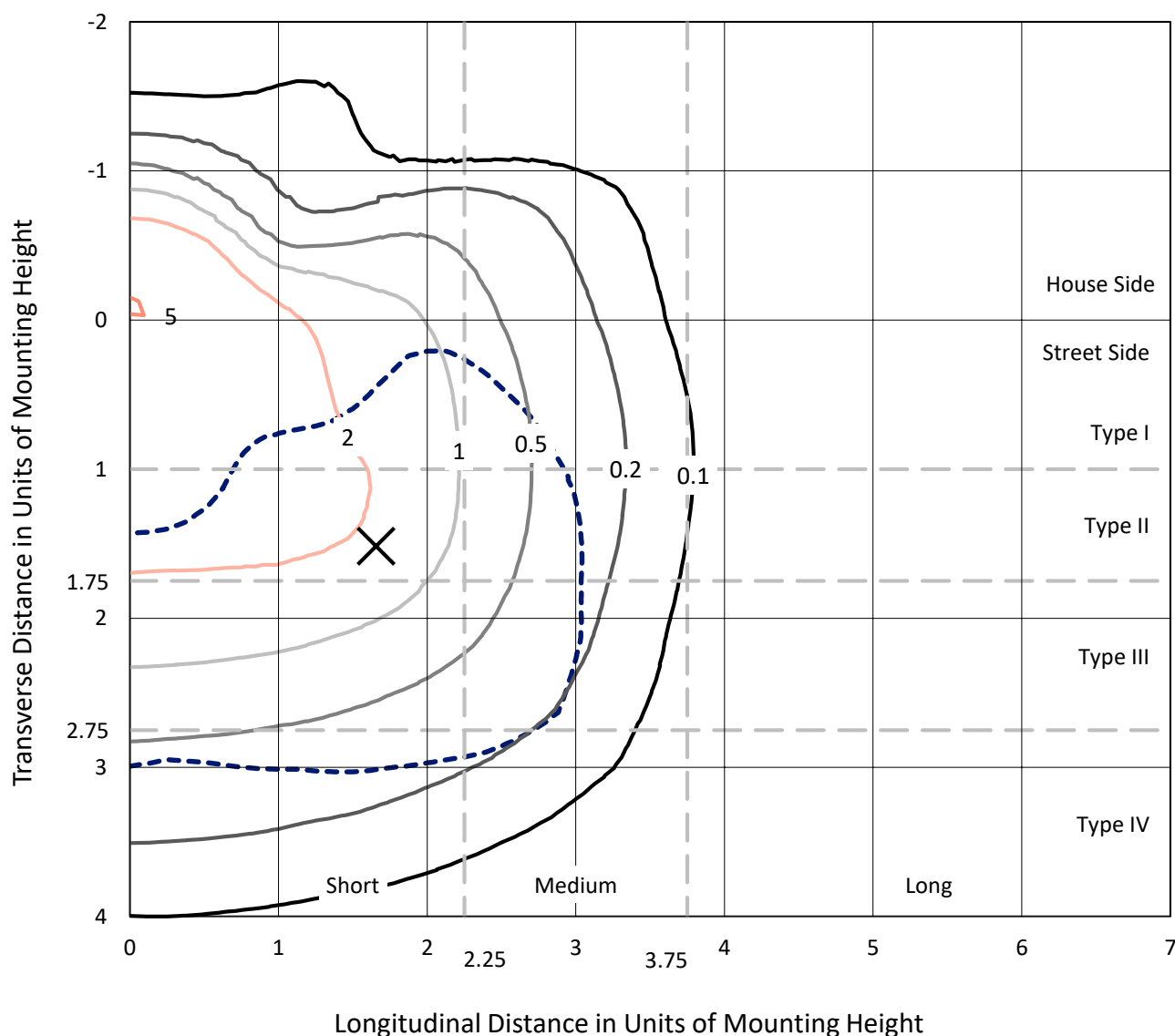
REPORT NUMBER: P159816

CATALOG NUMBER: VST-F09-LED-E-U-T4-7050

Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

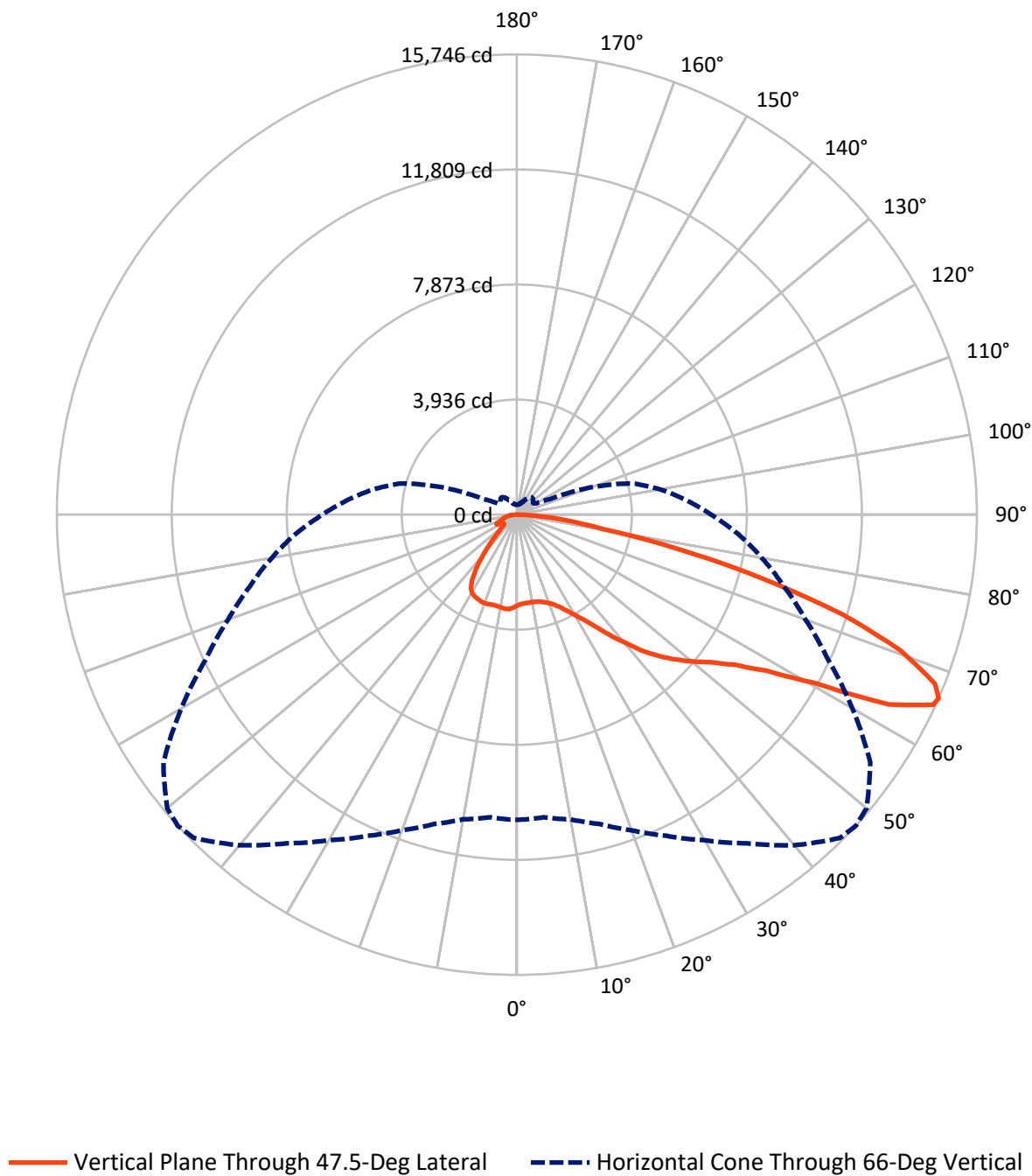


Based on 25 foot mounting height. Maximum calculated value = 5.1 fc
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P159816

CATALOG NUMBER: VST-F09-LED-E-U-T4-7050

Luminous Intensity Polar Plot



REPORT NUMBER: P159816

CATALOG NUMBER: VST-F09-LED-E-U-T4-7050

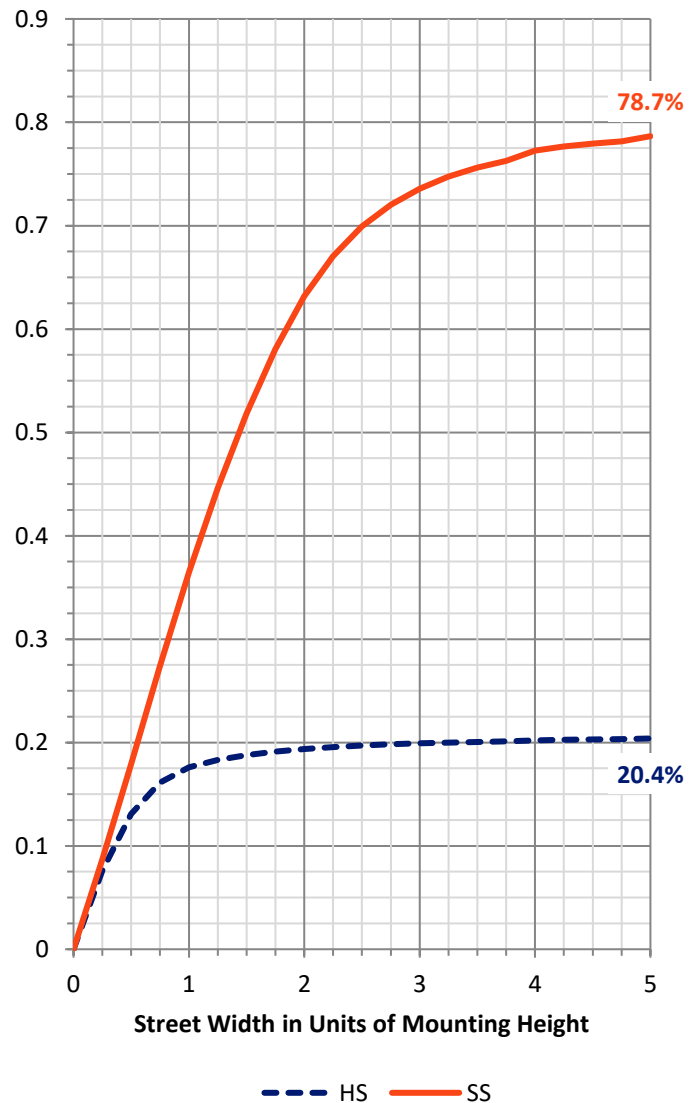
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4698.0	0.0	4698.0
	% Fixture	20.7	0.0	20.7
Street Side	Lumens	17992.8	0.0	17992.8
	% Fixture	79.3	0.0	79.3
Total	Lumens	22690.8	0.0	22690.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	299.2	1.3
10°-20°	897.3	4.0
20°-30°	1530.9	6.7
30°-40°	2310.7	10.2
40°-50°	3003.4	13.2
50°-60°	4120.4	18.2
60°-70°	6338.5	27.9
70°-80°	3664.0	16.1
80°-90°	526.4	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°	22690.8	100.0
0°-180°	22690.8	100.0

Coefficient of Utilization



REPORT NUMBER: P159816

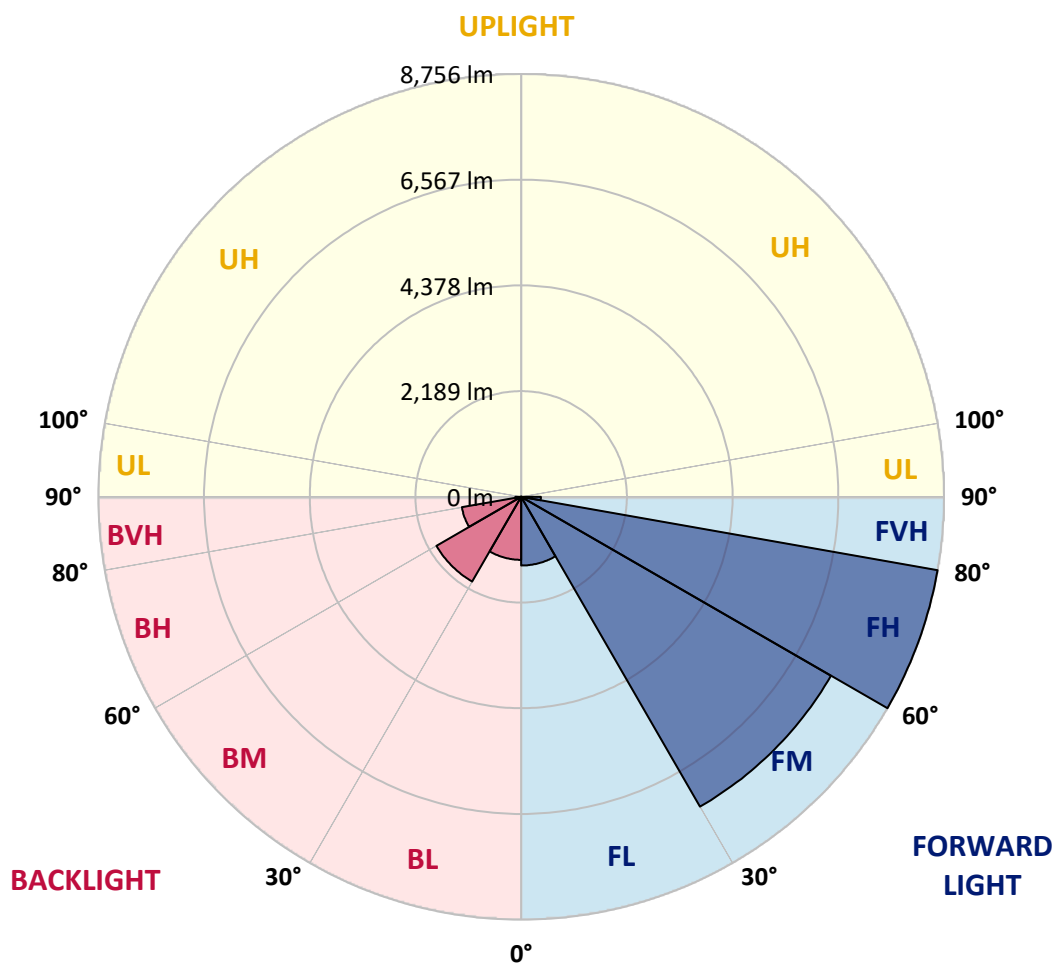
CATALOG NUMBER: VST-F09-LED-E-U-T4-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1422.3	6.3			
FM	(30°-60°)	7407.6	32.6			
FH	(60°-80°)	8755.6	38.6			G4/12000
FVH	(80°-90°)	407.3	1.8			G3/500
BL	(0°-30°)	1305.1	5.8	B3/2500		
BM	(30°-60°)	2026.9	8.9	B2/2500		
BH	(60°-80°)	1246.9	5.5	B3/2500		G3/2500
BVH	(80°-90°)	119.0	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: P159816

CATALOG NUMBER: VST-F09-LED-E-U-T4-7050

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	47.5°
0°	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4
2.5°	3025.1	3026.6	3028.1	3028.1	3032.7	3032.7	3040.3	3044.9	3046.4	3055.6	3061.7
5°	2968.7	2967.1	2968.7	2971.7	2979.3	2985.4	3000.7	3011.4	3020.5	3035.7	3043.4
7.5°	2944.3	2947.3	2950.4	2951.9	2958.0	2973.2	2987.0	2997.6	3015.9	3034.2	3041.8
10°	2976.3	2980.9	2976.3	2979.3	2979.3	2993.1	2999.2	3006.8	3020.5	3037.3	3041.8
12.5°	3051.0	3060.1	3051.0	3043.4	3037.3	3049.5	3046.4	3040.3	3047.9	3052.5	3052.5
15°	3174.5	3174.5	3168.4	3157.7	3142.5	3144.0	3130.3	3116.6	3110.5	3099.8	3092.2
17.5°	3295.0	3291.9	3278.2	3264.5	3253.8	3249.2	3229.4	3211.1	3189.7	3173.0	3154.7
20°	3412.4	3424.6	3407.8	3388.0	3371.2	3360.5	3345.3	3308.7	3282.8	3255.3	3237.0
22.5°	3615.1	3604.5	3586.2	3557.2	3540.4	3522.1	3490.1	3450.5	3410.8	3377.3	3354.4
25°	3824.0	3813.4	3787.4	3766.1	3741.7	3726.5	3691.4	3642.6	3604.5	3552.6	3522.1
27.5°	4048.2	4039.0	4008.5	3991.8	3975.0	3956.7	3926.2	3875.9	3840.8	3781.3	3749.3
30°	4301.3	4299.8	4258.6	4255.5	4231.1	4211.3	4190.0	4147.3	4112.2	4052.7	4014.6
32.5°	4571.2	4565.1	4536.1	4526.9	4543.7	4530.0	4499.5	4455.3	4409.5	4374.5	4331.8
35°	4955.4	4944.7	4927.9	4935.6	4946.2	4984.4	4937.1	4899.0	4844.1	4798.3	4738.9
37.5°	5235.9	5220.7	5240.5	5283.2	5344.2	5373.2	5414.3	5415.9	5389.9	5329.0	5277.1
40°	5493.6	5487.5	5533.3	5592.7	5705.6	5787.9	5865.7	5903.8	5912.9	5873.3	5795.5
42.5°	5711.7	5730.0	5790.9	5882.4	6041.0	6166.0	6310.9	6400.8	6457.3	6435.9	6400.8
45°	5970.9	5980.0	6054.7	6170.6	6321.6	6528.9	6719.5	6872.0	6971.1	6969.6	6929.9
47.5°	6295.6	6297.2	6361.2	6496.9	6658.5	6868.9	7109.8	7312.6	7443.8	7449.9	7419.4
50°	6681.4	6678.3	6748.5	6876.6	7048.9	7251.6	7507.8	7760.9	7943.9	7943.9	7899.7
52.5°	7178.5	7172.4	7210.5	7323.3	7489.5	7703.0	7957.6	8250.3	8448.6	8491.3	8395.2
55°	7841.7	7850.9	7860.0	7959.1	8100.9	8270.2	8562.9	8832.8	9098.1	9122.5	9066.1
57.5°	8608.7	8578.2	8643.7	8805.4	8967.0	9178.9	9386.3	9704.9	10019.0	10072.4	10064.8
60°	9807.1	9767.5	9834.5	10040.4	10218.8	10552.7	10908.0	11319.6	11691.7	11801.5	11668.8
62.5°	10909.5	10958.3	11049.8	11289.1	11548.4	11993.6	12527.2	13233.2	13939.1	14323.4	14295.9
65°	10810.4	10764.6	10940.0	11266.3	11735.9	12303.1	12966.4	13817.2	14834.2	15605.7	15674.3
66°	10442.9	10395.7	10584.7	10958.3	11495.0	12126.2	12862.7	13728.7	14768.6	15640.7	15745.9
67.5°	9836.1	9788.8	10002.3	10342.3	10895.8	11690.2	12486.1	13432.9	14514.0	15349.5	15434.9
70°	8665.1	8601.0	8767.2	9151.5	9599.7	10368.2	11126.0	12129.3	13239.3	13907.1	13939.1
72.5°	7340.1	7190.7	7367.5	7663.3	7983.5	8619.3	9279.5	9965.7	10850.0	11467.5	11644.4
75°	5325.9	5403.7	5455.5	5650.7	5862.6	6388.6	6775.9	7350.8	8035.4	8482.1	8623.9
77.5°	2825.3	2942.7	3015.9	3211.1	3561.8	3962.8	4382.1	4737.4	5187.2	5437.2	5611.0
80°	1585.7	1668.1	1787.0	1941.0	2111.8	2419.8	2668.3	2851.3	2915.3	2959.5	2999.2
82.5°	872.1	1081.0	1257.9	1364.6	1465.3	1588.8	1736.7	1889.1	1937.9	1864.8	1826.6
85°	135.7	199.7	608.4	742.5	808.1	902.6	1009.4	1122.2	1123.7	966.7	1055.1
87.5°	38.1	42.7	86.9	131.1	128.1	103.7	128.1	233.3	137.2	68.6	79.3
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: P159816

CATALOG NUMBER: VST-F09-LED-E-U-T4-7050

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4
2.5°	3064.7	3067.8	3075.4	3083.0	3090.6	3098.3	3102.8	3110.5	3116.6	3125.7	3136.4
5°	3052.5	3060.1	3073.9	3090.6	3105.9	3119.6	3130.3	3145.5	3159.3	3171.5	3189.7
7.5°	3052.5	3067.8	3090.6	3108.9	3122.7	3139.4	3156.2	3171.5	3186.7	3198.9	3211.1
10°	3054.0	3069.3	3092.2	3113.5	3128.8	3147.1	3160.8	3174.5	3191.3	3198.9	3214.1
12.5°	3060.1	3066.2	3083.0	3104.4	3122.7	3141.0	3154.7	3168.4	3186.7	3189.7	3200.4
15°	3090.6	3081.5	3086.1	3101.3	3121.1	3136.4	3151.6	3162.3	3174.5	3171.5	3180.6
17.5°	3147.1	3124.2	3115.0	3116.6	3125.7	3136.4	3142.5	3144.0	3145.5	3131.8	3133.3
20°	3223.3	3191.3	3169.9	3159.3	3147.1	3136.4	3119.6	3099.8	3081.5	3054.0	3051.0
22.5°	3337.6	3290.4	3267.5	3238.5	3201.9	3156.2	3115.0	3066.2	3026.6	2985.4	2970.2
25°	3503.8	3455.1	3430.7	3384.9	3319.4	3253.8	3194.3	3128.8	3070.8	3022.0	2999.2
27.5°	3726.5	3677.7	3651.7	3604.5	3523.7	3458.1	3375.8	3305.6	3235.5	3163.8	3134.9
30°	3996.3	3953.6	3924.7	3886.6	3816.4	3744.8	3648.7	3540.4	3429.1	3314.8	3258.4
32.5°	4315.0	4267.7	4246.4	4202.2	4129.0	4054.3	3947.5	3808.8	3622.8	3442.9	3330.0
35°	4713.0	4659.6	4635.2	4577.3	4491.9	4382.1	4267.7	4081.7	3830.1	3580.1	3395.6
37.5°	5245.1	5126.2	5045.4	4912.7	4775.5	4621.5	4458.3	4267.7	3970.4	3660.9	3404.7
40°	5716.2	5595.8	5440.3	5249.7	5036.2	4824.3	4638.2	4421.7	4098.5	3718.8	3375.8
42.5°	6301.7	6088.3	5839.7	5582.1	5298.5	5037.7	4816.6	4562.0	4185.4	3734.1	3295.0
45°	6836.9	6582.3	6249.9	5906.8	5554.6	5226.8	4978.3	4694.7	4260.1	3734.1	3197.4
47.5°	7324.8	7019.9	6621.9	6195.0	5784.8	5426.5	5144.5	4830.4	4365.3	3781.3	3168.4
50°	7776.2	7425.5	6972.6	6477.1	6016.6	5633.9	5330.5	5004.2	4525.4	3903.3	3238.5
52.5°	8251.9	7879.8	7327.9	6801.8	6294.1	5884.0	5560.7	5219.2	4732.8	4095.4	3362.0
55°	8875.5	8439.4	7812.7	7233.3	6675.3	6222.4	5855.0	5476.9	4960.0	4312.0	3513.0
57.5°	9858.9	9226.2	8599.5	7846.3	7320.3	6724.1	6321.6	5887.0	5329.0	4594.0	3740.2
60°	11580.4	10802.8	10049.5	9183.5	8533.9	7910.3	7302.0	6734.8	6062.4	5231.4	4238.8
62.5°	14038.2	13248.4	12065.2	11005.5	10025.1	9198.7	8405.9	7684.7	6821.7	5912.9	4853.2
65°	15506.6	14602.4	13192.0	11767.9	10577.1	9552.5	8645.3	7762.4	6830.8	5944.9	5039.3
66°	15624.0	14768.6	13262.2	11757.2	10520.7	9457.9	8514.1	7600.8	6646.3	5798.6	4978.3
67.5°	15405.9	14669.5	13118.8	11549.9	10285.9	9137.7	8168.0	7210.5	6251.4	5466.2	4775.5
70°	13867.5	13335.3	12005.8	10535.9	9275.0	8262.5	7239.4	6318.5	5409.8	4749.6	4237.2
72.5°	11368.4	10694.5	9764.4	8776.4	7783.8	6885.7	5955.6	5171.9	4409.5	3929.2	3566.4
75°	8351.0	7744.1	6719.5	6103.5	5447.9	4883.7	4257.1	3514.5	2973.2	2732.3	2643.9
77.5°	5293.9	4635.2	3770.7	3090.6	2657.6	2284.1	1800.7	1431.7	1146.6	1193.9	1321.9
80°	2674.4	2303.9	1724.5	1361.6	1177.1	978.9	774.6	587.0	428.5	489.4	553.5
82.5°	1716.9	1433.3	1142.0	899.6	759.3	669.4	535.2	388.8	289.7	326.3	399.5
85°	1033.8	873.7	696.8	570.3	495.5	413.2	303.4	215.0	213.5	228.7	282.1
87.5°	157.0	224.1	129.6	138.8	146.4	157.0	138.8	117.4	102.2	132.7	167.7
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: P159816

CATALOG NUMBER: VST-F09-LED-E-U-T4-7050

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4	3104.4
2.5°	3147.1	3150.1	3156.2	3163.8	3162.3	3173.0	3179.1	3173.0	3186.7	3186.7	3194.3
5°	3205.0	3209.6	3220.2	3227.9	3230.9	3240.1	3243.1	3241.6	3244.6	3246.2	3249.2
7.5°	3221.8	3234.0	3238.5	3243.1	3244.6	3247.7	3247.7	3244.6	3244.6	3243.1	3246.2
10°	3217.2	3221.8	3224.8	3223.3	3223.3	3220.2	3218.7	3217.2	3217.2	3214.1	3218.7
12.5°	3201.9	3201.9	3201.9	3198.9	3198.9	3197.4	3197.4	3197.4	3200.4	3201.9	3209.6
15°	3171.5	3171.5	3174.5	3173.0	3177.6	3185.2	3194.3	3200.4	3208.0	3209.6	3214.1
17.5°	3124.2	3125.7	3134.9	3154.7	3174.5	3197.4	3214.1	3218.7	3212.6	3197.4	3186.7
20°	3041.8	3061.7	3098.3	3145.5	3189.7	3218.7	3226.3	3208.0	3179.1	3139.4	3118.1
22.5°	2968.7	3008.3	3073.9	3151.6	3206.5	3226.3	3203.5	3160.8	3108.9	3063.2	3031.2
25°	2997.6	3043.4	3112.0	3179.1	3214.1	3203.5	3157.7	3096.7	3041.8	2988.5	2936.6
27.5°	3119.6	3165.4	3214.1	3234.0	3221.8	3182.1	3118.1	3052.5	2979.3	2903.1	2839.1
30°	3235.5	3261.4	3264.5	3244.6	3200.4	3136.4	3061.7	2985.4	2892.4	2800.9	2720.1
32.5°	3272.1	3241.6	3186.7	3130.3	3069.3	3003.7	2916.8	2816.2	2717.1	2613.4	2523.4
35°	3261.4	3137.9	3002.2	2881.8	2808.6	2733.9	2654.6	2520.4	2409.1	2320.6	2262.7
37.5°	3165.4	2939.7	2730.8	2555.5	2441.1	2352.7	2235.3	2124.0	2027.9	1988.3	1941.0
40°	3031.2	2686.6	2396.9	2151.4	2032.5	1919.6	1788.5	1703.1	1675.7	1639.1	1640.6
42.5°	2839.1	2390.8	2017.2	1735.1	1605.5	1482.0	1389.0	1338.7	1340.2	1309.7	1315.8
45°	2636.3	2093.5	1623.8	1343.3	1215.2	1110.0	1058.2	1042.9	1044.4	1046.0	1036.8
47.5°	2512.8	1861.7	1302.1	1018.5	905.7	846.2	818.8	811.2	812.7	814.2	803.5
50°	2494.5	1741.2	1087.1	779.1	706.0	672.4	658.7	651.1	651.1	645.0	635.8
52.5°	2546.3	1710.8	981.9	675.5	605.3	574.8	564.2	558.1	548.9	536.7	519.9
55°	2628.6	1738.2	949.9	640.4	571.8	541.3	527.6	524.5	509.3	486.4	458.9
57.5°	2781.1	1837.3	971.3	649.5	577.9	550.4	541.3	538.2	516.9	481.8	446.7
60°	3218.7	2125.5	1078.0	701.4	622.1	599.2	599.2	594.6	565.7	515.4	465.0
62.5°	3822.5	2547.8	1222.8	773.0	683.1	680.0	706.0	707.5	655.6	574.8	495.5
65°	4113.7	2746.0	1273.2	788.3	699.9	734.9	786.8	786.8	713.6	602.3	500.1
66°	4115.3	2741.5	1257.9	770.0	681.6	727.3	780.7	780.7	704.4	594.6	492.5
67.5°	4010.1	2656.1	1207.6	736.4	640.4	683.1	730.3	728.8	660.2	564.2	471.1
70°	3596.9	2349.6	1064.3	681.6	591.6	593.1	609.9	599.2	553.5	487.9	428.5
72.5°	3101.3	1965.4	922.5	646.5	553.5	524.5	510.8	501.6	472.7	433.0	396.4
75°	2378.6	1526.3	803.5	614.5	519.9	469.6	451.3	443.7	423.9	401.0	372.0
77.5°	1457.6	1046.0	681.6	562.6	481.8	436.1	416.3	401.0	381.2	359.8	340.0
80°	628.2	631.2	545.9	477.2	419.3	365.9	340.0	321.7	311.0	303.4	292.7
82.5°	439.1	452.8	416.3	370.5	320.2	282.1	259.2	254.6	256.2	256.2	253.1
85°	329.3	323.2	291.2	265.3	242.4	218.0	199.7	198.2	204.3	204.3	199.7
87.5°	190.6	192.1	164.7	154.0	160.1	137.2	125.0	126.6	141.8	140.3	137.2
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: P159816

CATALOG NUMBER: VST-F09-LED-E-U-T4-7050

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	3104.4	3104.4	3104.4	3104.4	3104.4
2.5°	3194.3	3198.9	3197.4	3201.9	3197.4
5°	3253.8	3252.3	3250.7	3256.8	3249.2
7.5°	3244.6	3246.2	3246.2	3246.2	3244.6
10°	3221.8	3227.9	3230.9	3237.0	3235.5
12.5°	3214.1	3223.3	3232.4	3241.6	3243.1
15°	3215.7	3221.8	3226.3	3230.9	3232.4
17.5°	3176.0	3174.5	3169.9	3166.9	3163.8
20°	3095.2	3087.6	3080.0	3067.8	3073.9
22.5°	2994.6	2973.2	2948.8	2929.0	2927.5
25°	2877.2	2837.5	2797.9	2772.0	2762.8
27.5°	2773.5	2726.2	2685.1	2662.2	2656.1
30°	2650.0	2607.3	2570.7	2550.9	2538.7
32.5°	2467.0	2433.5	2387.7	2372.5	2371.0
35°	2212.4	2186.5	2154.5	2148.4	2140.7
37.5°	1924.2	1915.1	1899.8	1881.5	1878.5
40°	1616.2	1622.3	1617.7	1607.1	1590.3
42.5°	1318.9	1329.6	1331.1	1338.7	1346.3
45°	1050.5	1059.7	1059.7	1067.3	1076.5
47.5°	806.6	800.5	805.1	812.7	817.3
50°	609.9	605.3	597.7	591.6	585.5
52.5°	491.0	481.8	460.5	454.4	448.3
55°	433.0	416.3	401.0	394.9	394.9
57.5°	416.3	394.9	378.1	370.5	367.5
60°	419.3	388.8	367.5	355.3	350.7
62.5°	433.0	390.3	361.4	347.6	343.1
65°	431.5	387.3	359.8	344.6	340.0
66°	423.9	382.7	356.8	343.1	340.0
67.5°	411.7	376.6	353.7	341.5	337.0
70°	387.3	364.4	347.6	337.0	332.4
72.5°	367.5	352.2	337.0	324.8	321.7
75°	349.2	333.9	320.2	314.1	309.5
77.5°	321.7	308.0	300.4	294.3	291.2
80°	285.1	276.0	266.8	260.7	256.2
82.5°	248.5	236.3	227.2	222.6	219.6
85°	202.8	195.2	181.4	172.3	170.8
87.5°	135.7	128.1	123.5	115.9	108.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)