

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: P159809

Luminaire Tested: **VST-E09-LED-E-U-T4-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P159809
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-E09-LED-E-U-T4-7030
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(9) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (189) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24466.1 lumens
Efficiency: N/A
Efficacy: 108.4 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): 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



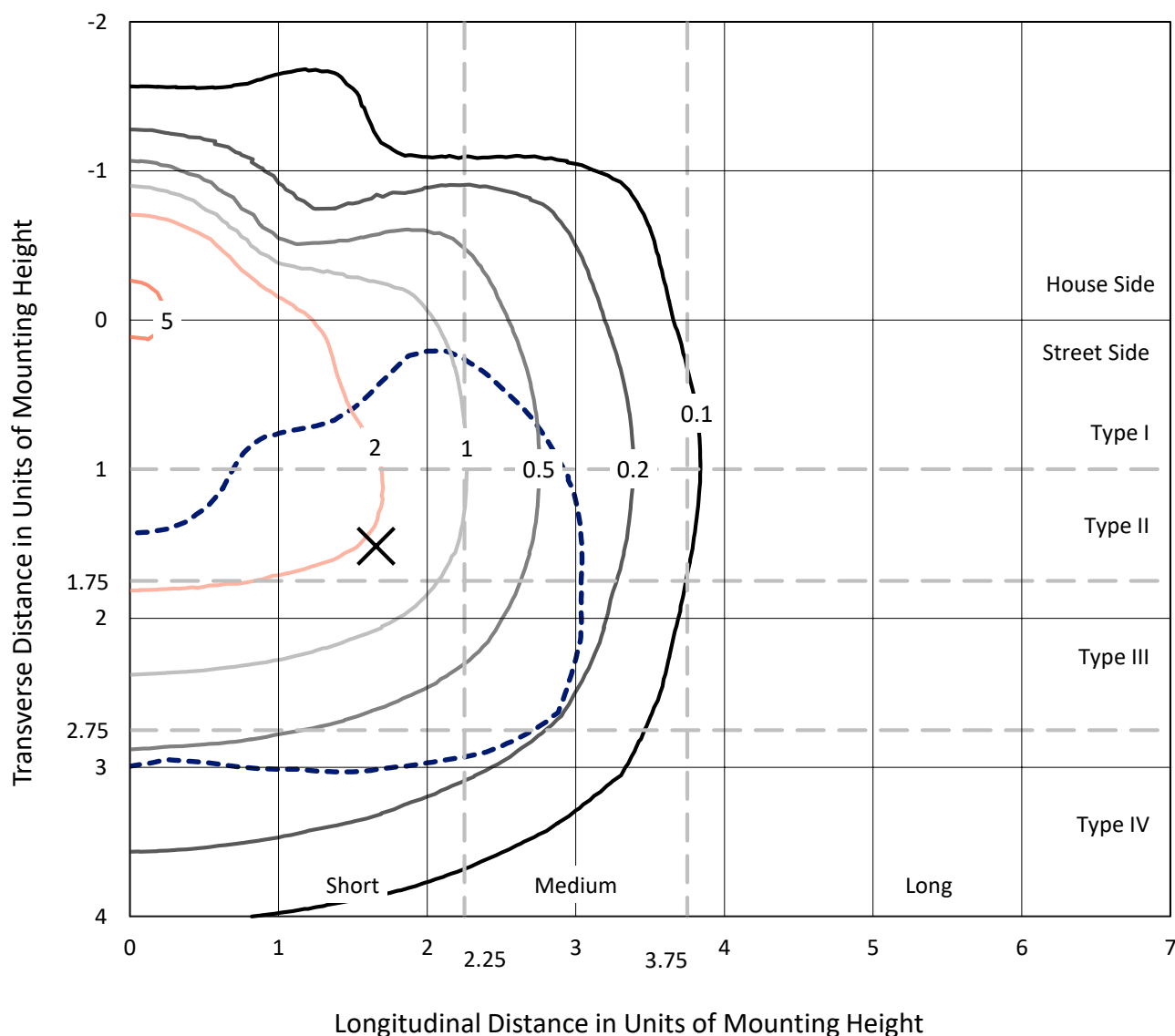
REPORT NUMBER: P159809

CATALOG NUMBER: VST-E09-LED-E-U-T4-7030

Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

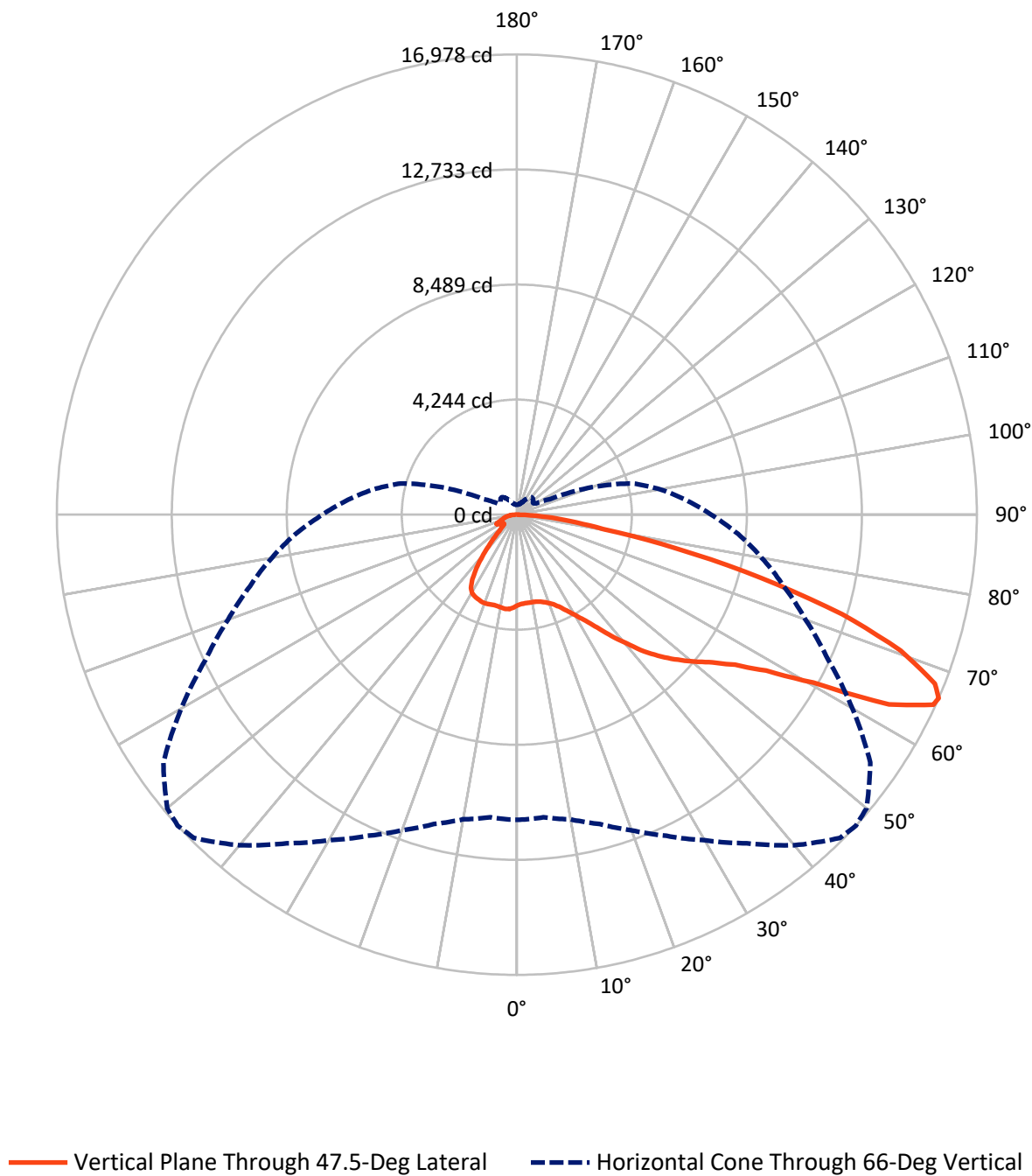


Based on 25 foot mounting height. Maximum calculated value = 5.5 fc
Type IV - Short - Semi-Cutoff

REPORT NUMBER: P159809

CATALOG NUMBER: VST-E09-LED-E-U-T4-7030

Luminous Intensity Polar Plot



REPORT NUMBER: P159809

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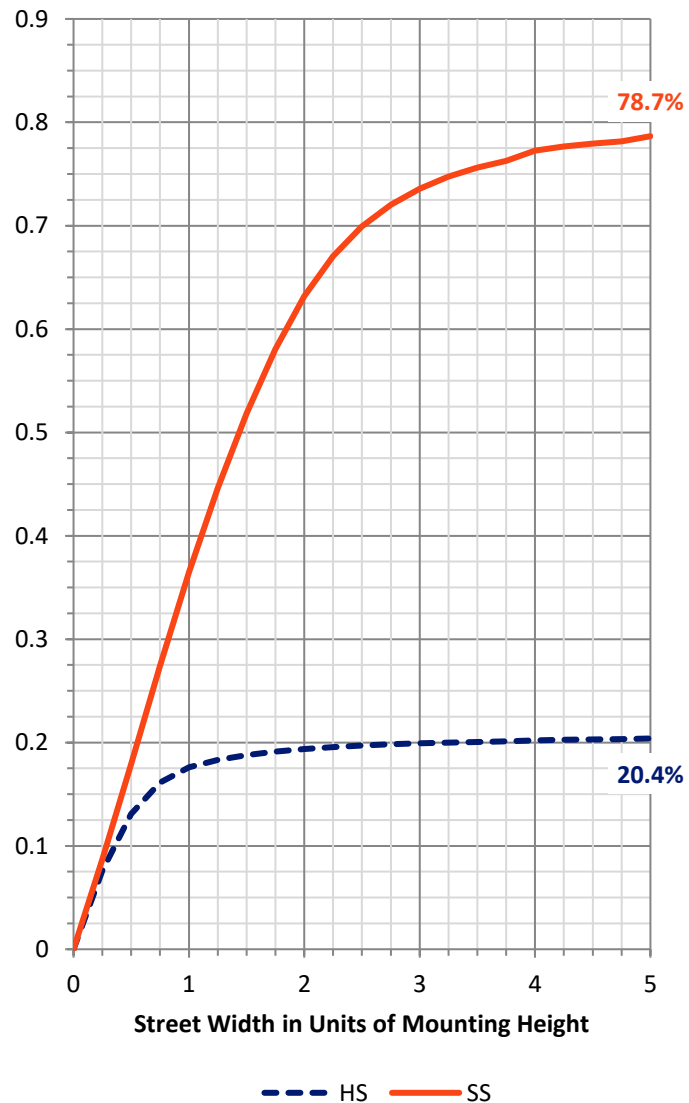
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5065.6	0.0	5065.6
	% Fixture	20.7	0.0	20.7
Street Side	Lumens	19400.6	0.0	19400.6
	% Fixture	79.3	0.0	79.3
Total	Lumens	24466.1	0.0	24466.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	322.6	1.3
10°-20°	967.5	4.0
20°-30°	1650.7	6.7
30°-40°	2491.5	10.2
40°-50°	3238.4	13.2
50°-60°	4442.8	18.2
60°-70°	6834.4	27.9
70°-80°	3950.7	16.1
80°-90°	567.5	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°	24466.1	100.0
0°-180°	24466.1	100.0

Coefficient of Utilization



REPORT NUMBER: P159809

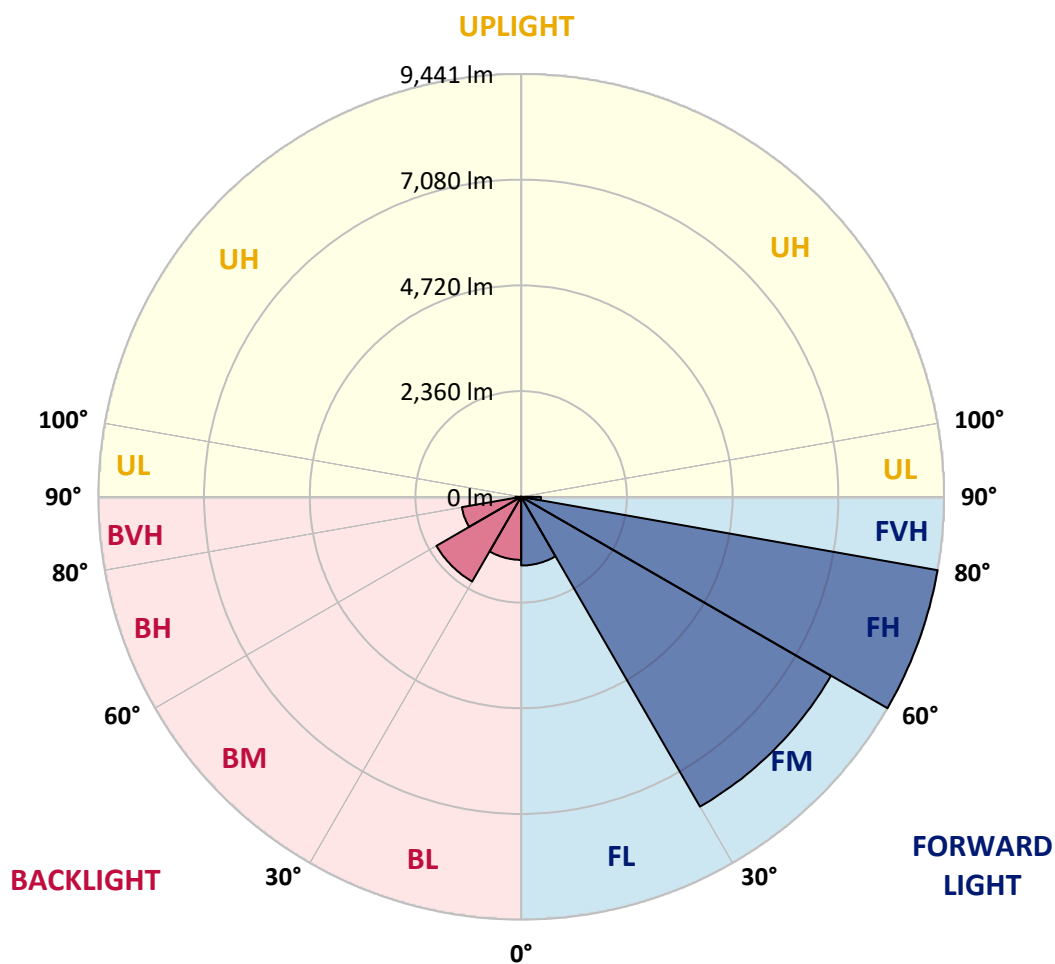
CATALOG NUMBER: VST-E09-LED-E-U-T4-7030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1533.6	6.3			
FM	(30°-60°)	7987.1	32.6			
FH	(60°-80°)	9440.7	38.6			G4/12000
FVH	(80°-90°)	439.2	1.8			G3/500
BL	(0°-30°)	1407.3	5.8	B3/2500		
BM	(30°-60°)	2185.5	8.9	B2/2500		
BH	(60°-80°)	1344.4	5.5	B3/2500		G3/2500
BVH	(80°-90°)	128.3	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: P159809

CATALOG NUMBER: VST-E09-LED-E-U-T4-7030

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	47.5°
0°	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2
2.5°	3261.8	3263.4	3265.0	3265.0	3270.0	3270.0	3278.2	3283.1	3284.8	3294.6	3301.2
5°	3200.9	3199.3	3200.9	3204.2	3212.4	3219.0	3235.5	3247.0	3256.8	3273.3	3281.5
7.5°	3174.6	3177.9	3181.2	3182.8	3189.4	3205.9	3220.7	3232.2	3251.9	3271.6	3279.8
10°	3209.1	3214.1	3209.1	3212.4	3212.4	3227.2	3233.8	3242.0	3256.8	3274.9	3279.8
12.5°	3289.7	3299.6	3289.7	3281.5	3274.9	3288.1	3284.8	3278.2	3286.4	3291.3	3291.3
15°	3422.9	3422.9	3416.3	3404.8	3388.3	3390.0	3375.2	3360.4	3353.8	3342.3	3334.1
17.5°	3552.8	3549.5	3534.7	3519.9	3508.4	3503.4	3482.1	3462.3	3439.3	3421.2	3401.5
20°	3679.3	3692.5	3674.4	3653.0	3635.0	3623.4	3607.0	3567.5	3539.6	3510.0	3490.3
22.5°	3898.0	3886.5	3866.8	3835.5	3817.4	3797.7	3763.2	3720.4	3677.7	3641.5	3616.9
25°	4123.2	4111.7	4083.8	4060.8	4034.5	4018.0	3980.2	3927.6	3886.5	3830.6	3797.7
27.5°	4364.9	4355.0	4322.2	4304.1	4286.0	4266.3	4233.4	4179.1	4141.3	4077.2	4042.7
30°	4637.8	4636.2	4591.8	4588.5	4562.2	4540.8	4517.8	4471.8	4434.0	4369.8	4328.7
32.5°	4928.8	4922.2	4891.0	4881.1	4899.2	4884.4	4851.5	4803.9	4754.5	4716.7	4670.7
35°	5343.1	5331.6	5313.5	5321.7	5333.2	5374.3	5323.4	5282.3	5223.1	5173.8	5109.6
37.5°	5645.6	5629.2	5650.5	5696.6	5762.3	5793.6	5838.0	5839.6	5811.6	5745.9	5690.0
40°	5923.4	5916.9	5966.2	6030.3	6152.0	6240.7	6324.6	6365.7	6375.6	6332.8	6249.0
42.5°	6158.5	6178.3	6244.0	6342.7	6513.6	6648.5	6804.6	6901.6	6962.5	6939.5	6901.6
45°	6438.0	6447.9	6528.4	6653.4	6816.2	7039.7	7245.2	7409.6	7516.5	7514.9	7472.1
47.5°	6788.2	6789.8	6858.9	7005.2	7179.5	7406.4	7666.1	7884.8	8026.2	8032.7	7999.9
50°	7204.1	7200.9	7276.5	7414.6	7600.4	7819.0	8095.2	8368.1	8565.4	8565.4	8517.7
52.5°	7740.1	7733.5	7774.6	7896.3	8075.5	8305.6	8580.2	8895.8	9109.6	9155.6	9052.0
55°	8455.2	8465.1	8475.0	8581.8	8734.7	8917.2	9232.9	9523.9	9809.9	9836.2	9775.4
57.5°	9282.2	9249.3	9320.0	9494.3	9668.5	9897.1	10120.7	10464.3	10802.9	10860.5	10852.2
60°	10574.4	10531.7	10604.0	10825.9	11018.3	11378.3	11761.4	12205.3	12606.4	12724.8	12581.8
62.5°	11763.0	11815.6	11914.3	12172.4	12451.9	12931.9	13507.4	14268.5	15029.7	15444.0	15414.4
65°	11656.2	11606.9	11795.9	12147.7	12654.1	13265.7	13980.8	14898.2	15994.8	16826.7	16900.6
66°	11260.0	11209.0	11412.9	11815.6	12394.3	13075.0	13869.0	14802.9	15924.1	16864.5	16977.9
67.5°	10605.6	10554.7	10784.8	11151.5	11748.2	12604.8	13463.0	14483.9	15649.5	16550.5	16642.5
70°	9343.0	9274.0	9453.2	9867.5	10350.8	11179.4	11996.5	13078.3	14275.1	14995.2	15029.7
72.5°	7914.4	7753.2	7944.0	8262.9	8608.1	9293.7	10005.6	10745.4	11698.9	12364.8	12555.5
75°	5742.6	5826.4	5882.3	6092.8	6321.3	6888.5	7306.1	7925.9	8664.0	9145.7	9298.6
77.5°	3046.4	3173.0	3251.9	3462.3	3840.5	4272.8	4724.9	5108.0	5593.0	5862.6	6050.0
80°	1709.8	1798.6	1926.8	2092.9	2277.0	2609.1	2877.1	3074.3	3143.4	3191.1	3233.8
82.5°	940.4	1165.6	1356.3	1471.4	1579.9	1713.1	1872.6	2037.0	2089.6	2010.6	1969.5
85°	146.3	215.4	656.0	800.6	871.3	973.3	1088.3	1210.0	1211.7	1042.3	1137.7
87.5°	41.1	46.0	93.7	141.4	138.1	111.8	138.1	251.5	148.0	74.0	85.5
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: P159809

CATALOG NUMBER: VST-E09-LED-E-U-T4-7030

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2
2.5°	3304.5	3307.8	3316.0	3324.2	3332.5	3340.7	3345.6	3353.8	3360.4	3370.3	3381.8
5°	3291.3	3299.6	3314.4	3332.5	3348.9	3363.7	3375.2	3391.6	3406.4	3419.6	3439.3
7.5°	3291.3	3307.8	3332.5	3352.2	3367.0	3385.1	3403.1	3419.6	3436.0	3449.2	3462.3
10°	3293.0	3309.4	3334.1	3357.1	3373.6	3393.3	3408.1	3422.9	3441.0	3449.2	3465.6
12.5°	3299.6	3306.1	3324.2	3347.2	3367.0	3386.7	3401.5	3416.3	3436.0	3439.3	3450.8
15°	3332.5	3322.6	3327.5	3344.0	3365.3	3381.8	3398.2	3409.7	3422.9	3419.6	3429.4
17.5°	3393.3	3368.6	3358.8	3360.4	3370.3	3381.8	3388.3	3390.0	3391.6	3376.8	3378.5
20°	3475.5	3441.0	3417.9	3406.4	3393.3	3381.8	3363.7	3342.3	3322.6	3293.0	3289.7
22.5°	3598.8	3547.8	3523.2	3491.9	3452.5	3403.1	3358.8	3306.1	3263.4	3219.0	3202.6
25°	3778.0	3725.4	3699.1	3649.7	3579.1	3508.4	3444.2	3373.6	3311.1	3258.5	3233.8
27.5°	4018.0	3965.4	3937.5	3886.5	3799.4	3728.7	3639.9	3564.3	3488.6	3411.4	3380.1
30°	4309.0	4263.0	4231.7	4190.6	4115.0	4037.7	3934.2	3817.4	3697.4	3574.1	3513.3
32.5°	4652.6	4601.6	4578.6	4530.9	4452.0	4371.5	4256.4	4106.8	3906.2	3712.2	3590.6
35°	5081.7	5024.2	4997.9	4935.4	4843.3	4724.9	4601.6	4401.1	4129.8	3860.2	3661.3
37.5°	5655.5	5527.2	5440.1	5297.1	5149.1	4983.1	4807.1	4601.6	4281.1	3947.3	3671.1
40°	6163.5	6033.6	5865.9	5660.4	5430.2	5201.7	5001.1	4767.7	4419.2	4009.8	3639.9
42.5°	6794.8	6564.6	6296.6	6018.8	5713.0	5431.9	5193.5	4918.9	4512.9	4026.2	3552.8
45°	7371.8	7097.3	6738.9	6369.0	5989.2	5635.7	5367.8	5062.0	4593.4	4026.2	3447.5
47.5°	7897.9	7569.1	7140.0	6679.7	6237.5	5851.1	5547.0	5208.3	4706.9	4077.2	3416.3
50°	8384.6	8006.4	7518.2	6983.8	6487.3	6074.7	5747.5	5395.7	4879.5	4208.7	3491.9
52.5°	8897.5	8496.4	7901.2	7334.0	6786.6	6344.3	5995.8	5627.5	5103.1	4415.9	3625.1
55°	9569.9	9099.7	8424.0	7799.3	7197.6	6709.3	6313.1	5905.4	5348.0	4649.3	3787.8
57.5°	10630.3	9948.0	9272.3	8460.2	7893.0	7250.2	6816.2	6347.6	5745.9	4953.5	4032.8
60°	12486.4	11648.0	10835.8	9902.0	9201.6	8529.2	7873.3	7261.7	6536.7	5640.7	4570.4
62.5°	15136.6	14285.0	13009.2	11866.6	10809.5	9918.4	9063.5	8285.9	7355.4	6375.6	5232.9
65°	16719.8	15744.9	14224.2	12688.6	11404.6	10299.9	9321.7	8369.8	7365.3	6410.1	5433.5
66°	16846.4	15924.1	14299.8	12677.1	11343.8	10197.9	9180.3	8195.5	7166.3	6252.2	5367.8
67.5°	16611.3	15817.2	14145.2	12453.5	11090.6	9852.7	8807.1	7774.6	6740.5	5893.8	5149.1
70°	14952.5	14378.7	12945.1	11360.3	10000.6	8909.0	7805.9	6812.9	5833.0	5121.2	4568.8
72.5°	12257.9	11531.2	10528.4	9463.0	8392.8	7424.4	6421.6	5576.6	4754.5	4236.7	3845.4
75°	9004.4	8350.0	7245.2	6581.1	5874.1	5265.8	4590.1	3789.5	3205.9	2946.1	2850.7
77.5°	5708.1	4997.9	4065.7	3332.5	2865.5	2462.8	1941.6	1543.7	1236.3	1287.3	1425.4
80°	2883.6	2484.1	1859.4	1468.1	1269.2	1055.5	835.2	633.0	462.0	527.7	596.8
82.5°	1851.2	1545.4	1231.4	970.0	818.7	721.7	577.1	419.2	312.4	351.8	430.7
85°	1114.7	942.0	751.3	614.9	534.3	445.5	327.2	231.8	230.2	246.6	304.1
87.5°	169.3	241.7	139.7	149.6	157.8	169.3	149.6	126.6	110.2	143.0	180.8
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: P159809

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CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2	3347.2
2.5°	3393.3	3396.6	3403.1	3411.4	3409.7	3421.2	3427.8	3421.2	3436.0	3436.0	3444.2
5°	3455.8	3460.7	3472.2	3480.4	3483.7	3493.6	3496.9	3495.2	3498.5	3500.1	3503.4
7.5°	3473.8	3487.0	3491.9	3496.9	3498.5	3501.8	3501.8	3498.5	3498.5	3496.9	3500.1
10°	3468.9	3473.8	3477.1	3475.5	3475.5	3472.2	3470.5	3468.9	3468.9	3465.6	3470.5
12.5°	3452.5	3452.5	3452.5	3449.2	3449.2	3447.5	3447.5	3447.5	3450.8	3452.5	3460.7
15°	3419.6	3419.6	3422.9	3421.2	3426.2	3434.4	3444.2	3450.8	3459.0	3460.7	3465.6
17.5°	3368.6	3370.3	3380.1	3401.5	3422.9	3447.5	3465.6	3470.5	3464.0	3447.5	3436.0
20°	3279.8	3301.2	3340.7	3391.6	3439.3	3470.5	3478.8	3459.0	3427.8	3385.1	3362.0
22.5°	3200.9	3243.7	3314.4	3398.2	3457.4	3478.8	3454.1	3408.1	3352.2	3302.9	3268.3
25°	3232.2	3281.5	3355.5	3427.8	3465.6	3454.1	3404.8	3339.0	3279.8	3222.3	3166.4
27.5°	3363.7	3413.0	3465.6	3487.0	3473.8	3431.1	3362.0	3291.3	3212.4	3130.2	3061.2
30°	3488.6	3516.6	3519.9	3498.5	3450.8	3381.8	3301.2	3219.0	3118.7	3020.1	2933.0
32.5°	3528.1	3495.2	3436.0	3375.2	3309.4	3238.7	3145.0	3036.5	2929.7	2817.9	2720.9
35°	3516.6	3383.4	3237.1	3107.2	3028.3	2947.7	2862.3	2717.6	2597.6	2502.2	2439.7
37.5°	3413.0	3169.7	2944.5	2755.4	2632.1	2536.7	2410.1	2290.1	2186.6	2143.8	2092.9
40°	3268.3	2896.8	2584.4	2319.7	2191.5	2069.8	1928.4	1836.4	1806.8	1767.3	1769.0
42.5°	3061.2	2577.8	2175.1	1870.9	1731.2	1598.0	1497.7	1443.5	1445.1	1412.2	1418.8
45°	2842.5	2257.3	1750.9	1448.4	1310.3	1196.9	1141.0	1124.5	1126.2	1127.8	1117.9
47.5°	2709.4	2007.4	1404.0	1098.2	976.6	912.4	882.8	874.6	876.3	877.9	866.4
50°	2689.6	1877.5	1172.2	840.1	761.2	725.0	710.2	702.0	702.0	695.4	685.6
52.5°	2745.5	1844.6	1058.8	728.3	652.7	619.8	608.3	601.7	591.9	578.7	560.6
55°	2834.3	1874.2	1024.2	690.5	616.5	583.6	568.8	565.5	549.1	524.4	494.9
57.5°	2998.7	1981.1	1047.2	700.4	623.1	593.5	583.6	580.3	557.3	519.5	481.7
60°	3470.5	2291.8	1162.3	756.3	670.8	646.1	646.1	641.2	609.9	555.7	501.4
62.5°	4121.6	2747.2	1318.5	833.5	736.5	733.2	761.2	762.8	706.9	619.8	534.3
65°	4435.6	2960.9	1372.8	850.0	754.6	792.4	848.3	848.3	769.4	649.4	539.2
66°	4437.2	2956.0	1356.3	830.2	734.9	784.2	841.7	841.7	759.5	641.2	531.0
67.5°	4323.8	2863.9	1302.1	794.1	690.5	736.5	787.5	785.8	711.9	608.3	508.0
70°	3878.3	2533.5	1147.5	734.9	637.9	639.5	657.6	646.1	596.8	526.1	462.0
72.5°	3344.0	2119.2	994.6	697.1	596.8	565.5	550.8	540.9	509.6	466.9	427.4
75°	2564.7	1645.7	866.4	662.5	560.6	506.4	486.6	478.4	457.0	432.4	401.1
77.5°	1571.7	1127.8	734.9	606.6	519.5	470.2	448.8	432.4	411.0	388.0	366.6
80°	677.3	680.6	588.6	514.6	452.1	394.6	366.6	346.9	335.4	327.2	315.7
82.5°	473.5	488.3	448.8	399.5	345.2	304.1	279.5	274.6	276.2	276.2	272.9
85°	355.1	348.5	314.0	286.1	261.4	235.1	215.4	213.7	220.3	220.3	215.4
87.5°	205.5	207.1	177.6	166.0	172.6	148.0	134.8	136.5	152.9	151.3	148.0
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: P159809

CATALOG NUMBER: VST-E09-LED-E-U-T4-7030

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	3347.2	3347.2	3347.2	3347.2	3347.2
2.5°	3444.2	3449.2	3447.5	3452.5	3447.5
5°	3508.4	3506.7	3505.1	3511.6	3503.4
7.5°	3498.5	3500.1	3500.1	3500.1	3498.5
10°	3473.8	3480.4	3483.7	3490.3	3488.6
12.5°	3465.6	3475.5	3485.3	3495.2	3496.9
15°	3467.3	3473.8	3478.8	3483.7	3485.3
17.5°	3424.5	3422.9	3417.9	3414.7	3411.4
20°	3337.4	3329.2	3320.9	3307.8	3314.4
22.5°	3228.9	3205.9	3179.6	3158.2	3156.5
25°	3102.3	3059.5	3016.8	2988.8	2979.0
27.5°	2990.5	2939.5	2895.1	2870.5	2863.9
30°	2857.3	2811.3	2771.8	2750.5	2737.3
32.5°	2660.0	2623.9	2574.6	2558.1	2556.5
35°	2385.5	2357.5	2323.0	2316.4	2308.2
37.5°	2074.8	2064.9	2048.5	2028.7	2025.4
40°	1742.7	1749.2	1744.3	1732.8	1714.7
42.5°	1422.1	1433.6	1435.2	1443.5	1451.7
45°	1132.7	1142.6	1142.6	1150.8	1160.7
47.5°	869.7	863.1	868.0	876.3	881.2
50°	657.6	652.7	644.5	637.9	631.3
52.5°	529.4	519.5	496.5	489.9	483.3
55°	466.9	448.8	432.4	425.8	425.8
57.5°	448.8	425.8	407.7	399.5	396.2
60°	452.1	419.2	396.2	383.1	378.1
62.5°	466.9	420.9	389.6	374.8	369.9
65°	465.3	417.6	388.0	371.6	366.6
66°	457.0	412.7	384.7	369.9	366.6
67.5°	443.9	406.1	381.4	368.3	363.3
70°	417.6	392.9	374.8	363.3	358.4
72.5°	396.2	379.8	363.3	350.2	346.9
75°	376.5	360.0	345.2	338.7	333.7
77.5°	346.9	332.1	323.9	317.3	314.0
80°	307.4	297.6	287.7	281.1	276.2
82.5°	268.0	254.8	245.0	240.0	236.7
85°	218.7	210.4	195.6	185.8	184.1
87.5°	146.3	138.1	133.2	124.9	116.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)