

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: P159845

Luminaire Tested: **VST-F12-LED-E-U-T4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P159845
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-F12-LED-E-U-T4
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(12) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (84) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 29484.7 lumens
Efficiency: N/A
Efficacy: 96.2 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 306.6
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

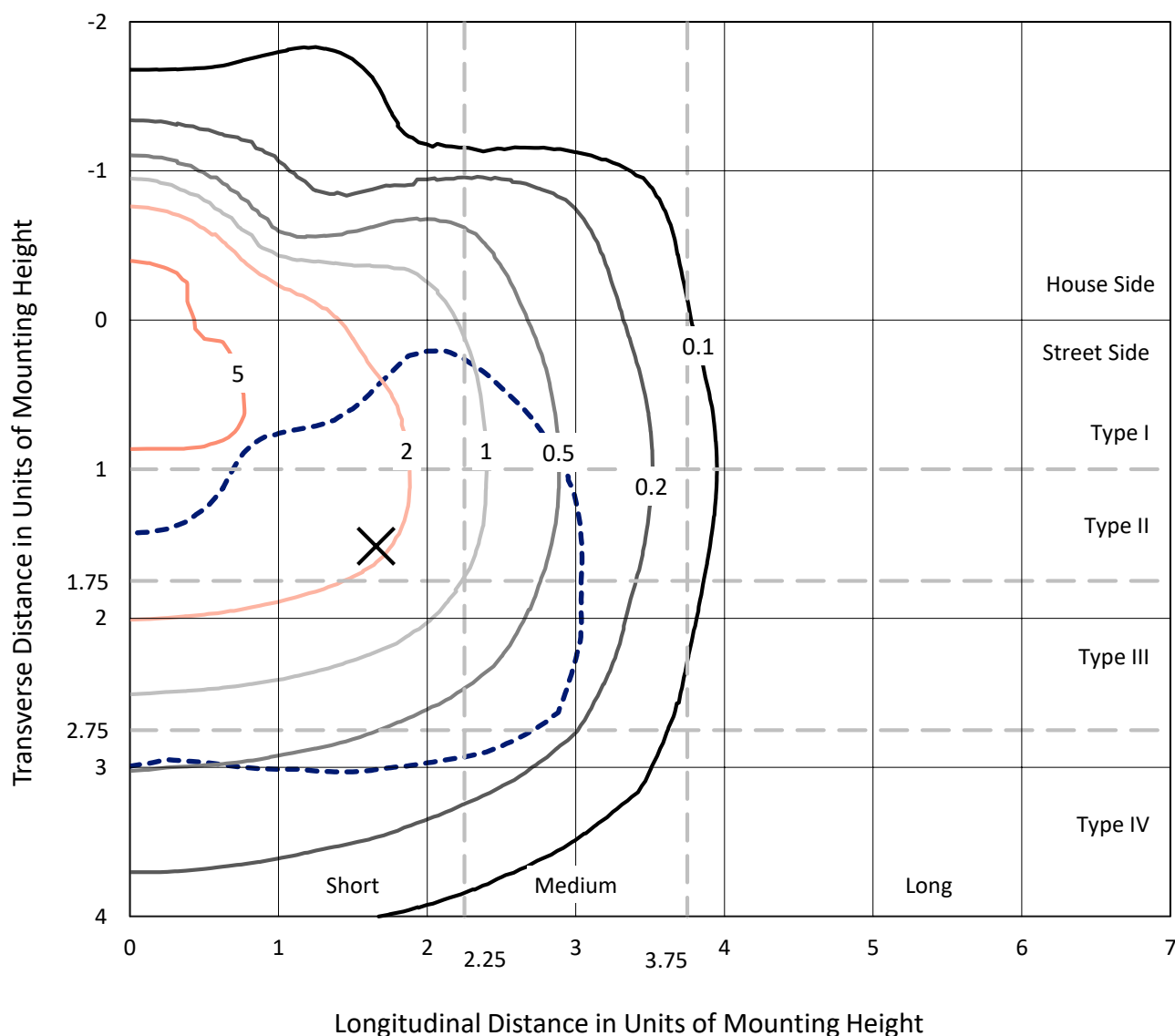


REPORT NUMBER: P159845

CATALOG NUMBER: VST-F12-LED-E-U-T4

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 --- 1/2 Max cd

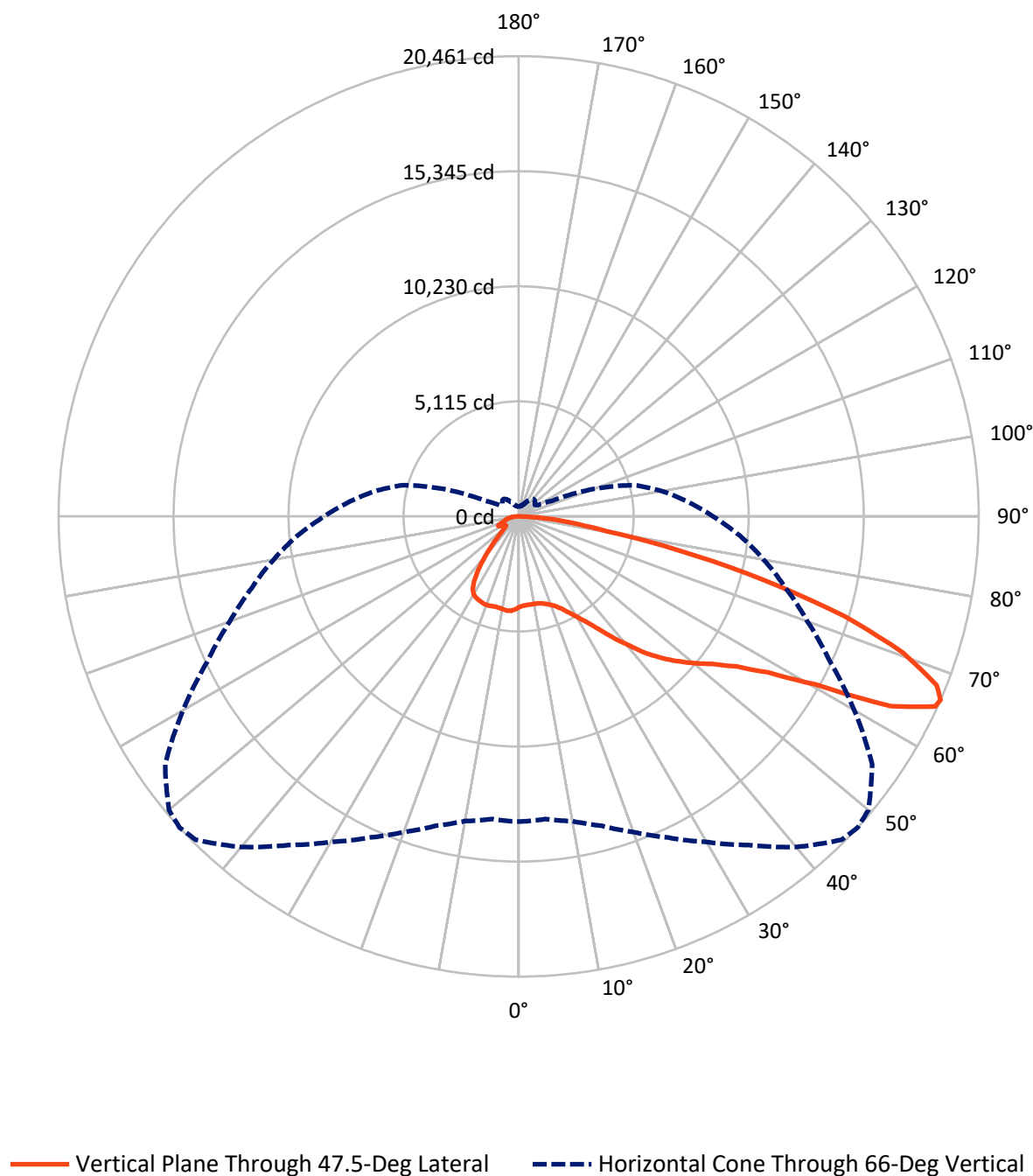


Based on 25 foot mounting height. Maximum calculated value = 6.6 fc
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P159845

CATALOG NUMBER: VST-F12-LED-E-U-T4

Luminous Intensity Polar Plot



REPORT NUMBER: P159845

CATALOG NUMBER: VST-F12-LED-E-U-T4

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6104.6	0.0	6104.6
	% Fixture	20.7	0.0	20.7
Street Side	Lumens	23380.1	0.0	23380.1
	% Fixture	79.3	0.0	79.3
Total	Lumens	29484.7	0.0	29484.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	388.8	1.3
10°-20°	1165.9	4.0
20°-30°	1989.3	6.7
30°-40°	3002.6	10.2
40°-50°	3902.7	13.2
50°-60°	5354.1	18.2
60°-70°	8236.3	27.9
70°-80°	4761.1	16.1
80°-90°	684.0	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°	29484.7	100.0
0°-180°	29484.7	100.0

Coefficient of Utilization



REPORT NUMBER: P159845

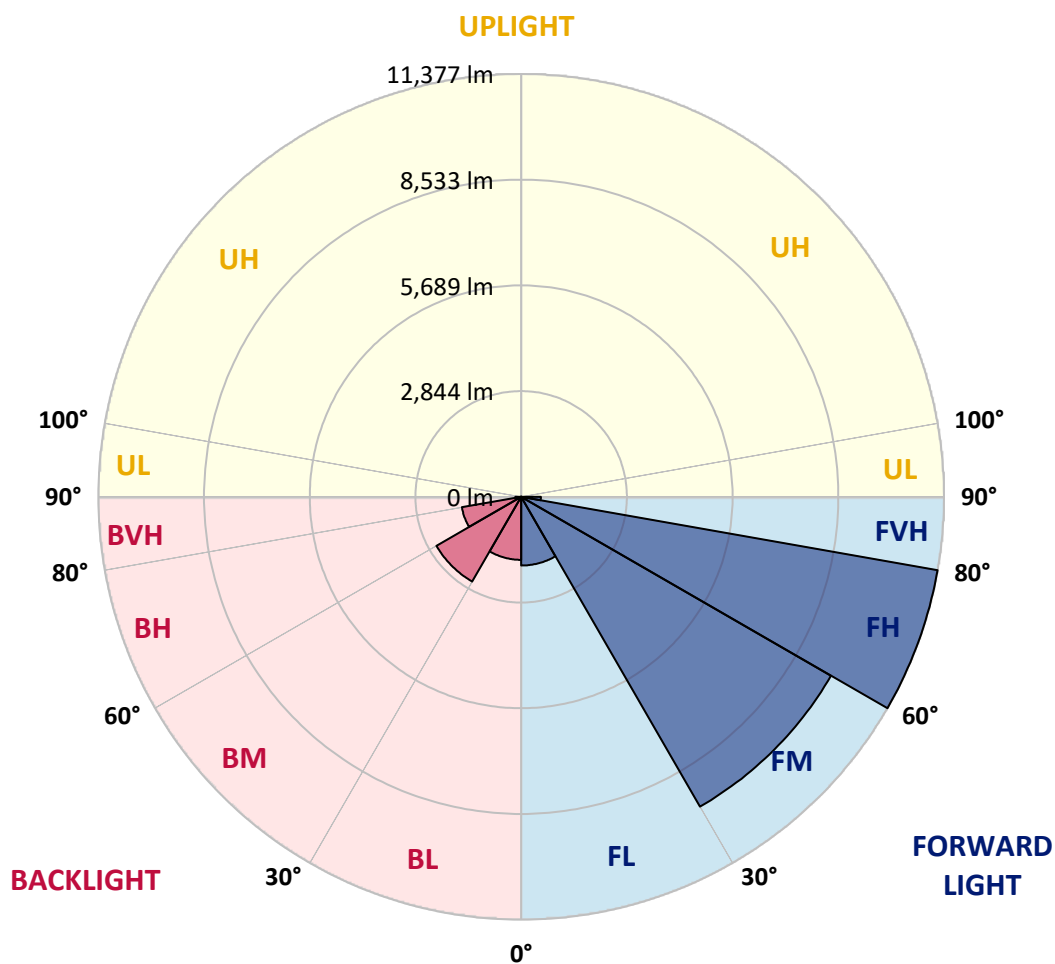
CATALOG NUMBER: VST-F12-LED-E-U-T4

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1848.1	6.3			
FM	(30°-60°)	9625.5	32.6			
FH	(60°-80°)	11377.2	38.6			G4/12000
FVH	(80°-90°)	529.3	1.8			G4/750
BL	(0°-30°)	1695.9	5.8	B3/2500		
BM	(30°-60°)	2633.8	8.9	B3/5000		
BH	(60°-80°)	1620.2	5.5	B3/2500		G3/2500
BVH	(80°-90°)	154.7	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: P159845

CATALOG NUMBER: VST-F12-LED-E-U-T4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	47.5°
0°	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8
2.5°	3930.8	3932.8	3934.8	3934.8	3940.7	3940.7	3950.6	3956.6	3958.6	3970.4	3978.4
5°	3857.5	3855.5	3857.5	3861.5	3871.4	3879.3	3899.1	3913.0	3924.9	3944.7	3954.6
7.5°	3825.8	3829.8	3833.7	3835.7	3843.6	3863.5	3881.3	3895.2	3918.9	3942.7	3952.6
10°	3867.4	3873.4	3867.4	3871.4	3871.4	3889.2	3897.1	3907.0	3924.9	3946.7	3952.6
12.5°	3964.5	3976.4	3964.5	3954.6	3946.7	3962.5	3958.6	3950.6	3960.5	3966.5	3966.5
15°	4125.0	4125.0	4117.1	4103.2	4083.4	4085.4	4067.5	4049.7	4041.8	4027.9	4018.0
17.5°	4281.5	4277.5	4259.7	4241.9	4228.0	4222.1	4196.3	4172.5	4144.8	4123.0	4099.2
20°	4434.1	4449.9	4428.1	4402.4	4380.6	4366.7	4346.9	4299.3	4265.7	4230.0	4206.2
22.5°	4697.6	4683.7	4659.9	4622.3	4600.5	4576.7	4535.1	4483.6	4432.1	4388.5	4358.8
25°	4969.0	4955.1	4921.4	4893.7	4862.0	4842.2	4796.6	4733.2	4683.7	4616.3	4576.7
27.5°	5260.2	5248.4	5208.7	5186.9	5165.1	5141.4	5101.7	5036.4	4990.8	4913.5	4871.9
30°	5589.1	5587.2	5533.7	5529.7	5498.0	5472.2	5444.5	5389.0	5343.5	5266.2	5216.7
32.5°	5939.8	5931.9	5894.2	5882.4	5904.2	5886.3	5846.7	5789.2	5729.8	5684.2	5628.8
35°	6439.1	6425.2	6403.4	6413.3	6427.2	6476.7	6415.3	6365.8	6294.5	6235.0	6157.8
37.5°	6803.6	6783.8	6809.6	6865.1	6944.3	6982.0	7035.5	7037.4	7003.8	6924.5	6857.1
40°	7138.5	7130.6	7190.0	7267.3	7413.9	7520.9	7621.9	7671.4	7683.3	7631.8	7530.8
42.5°	7421.8	7445.6	7524.8	7643.7	7849.8	8012.2	8200.4	8317.3	8390.6	8362.9	8317.3
45°	7758.6	7770.5	7867.6	8018.2	8214.3	8483.8	8731.4	8929.5	9058.3	9056.3	9004.8
47.5°	8180.6	8182.6	8265.8	8442.1	8652.2	8925.6	9238.6	9502.1	9672.5	9680.4	9640.8
50°	8681.9	8677.9	8769.1	8935.5	9159.4	9422.9	9755.7	10084.6	10322.4	10322.4	10264.9
52.5°	9327.8	9319.8	9369.4	9516.0	9731.9	10009.3	10340.2	10720.6	10978.2	11033.6	10908.8
55°	10189.6	10201.5	10213.4	10342.2	10526.4	10746.4	11126.8	11477.4	11822.2	11853.9	11780.6
57.5°	11186.2	11146.6	11231.8	11441.8	11651.8	11927.2	12196.6	12610.7	13018.9	13088.2	13078.3
60°	12743.5	12692.0	12779.1	13046.6	13278.4	13712.3	14173.9	14708.9	15192.3	15335.0	15162.6
62.5°	14175.9	14239.3	14358.2	14669.2	15006.1	15584.6	16278.0	17195.4	18112.7	18612.0	18576.3
65°	14047.1	13987.7	14215.5	14639.5	15249.8	15986.8	16848.6	17954.2	19275.7	20278.2	20367.4
66°	13569.6	13508.2	13753.9	14239.3	14936.7	15757.0	16713.9	17839.3	19190.5	20323.8	20460.5
67.5°	12781.1	12719.7	12997.1	13438.9	14158.1	15190.3	16224.5	17454.9	18859.6	19945.3	20056.3
70°	11259.5	11176.3	11392.2	11891.5	12474.0	13472.6	14457.3	15760.9	17203.3	18071.1	18112.7
72.5°	9537.8	9343.6	9573.4	9957.8	10373.9	11200.1	12057.9	12949.5	14098.6	14901.1	15130.9
75°	6920.5	7021.6	7088.9	7342.5	7617.9	8301.5	8804.7	9551.7	10441.2	11021.7	11206.0
77.5°	3671.3	3823.8	3918.9	4172.5	4628.2	5149.3	5694.1	6155.8	6740.2	7065.2	7291.0
80°	2060.5	2167.5	2322.0	2522.1	2744.0	3144.3	3467.2	3705.0	3788.2	3845.6	3897.1
82.5°	1133.3	1404.7	1634.5	1773.2	1904.0	2064.5	2256.7	2454.8	2518.2	2423.1	2373.5
85°	176.3	259.5	790.5	964.9	1050.1	1172.9	1311.6	1458.2	1460.2	1256.1	1371.0
87.5°	49.5	55.5	112.9	170.4	166.4	134.7	166.4	303.1	178.3	89.2	103.0
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: P159845

CATALOG NUMBER: VST-F12-LED-E-U-T4

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8
2.5°	3982.3	3986.3	3996.2	4006.1	4016.0	4025.9	4031.9	4041.8	4049.7	4061.6	4075.5
5°	3966.5	3976.4	3994.2	4016.0	4035.8	4053.7	4067.5	4087.3	4105.2	4121.0	4144.8
7.5°	3966.5	3986.3	4016.0	4039.8	4057.6	4079.4	4101.2	4121.0	4140.8	4156.7	4172.5
10°	3968.5	3988.3	4018.0	4045.7	4065.5	4089.3	4107.2	4125.0	4146.8	4156.7	4176.5
12.5°	3976.4	3984.3	4006.1	4033.8	4057.6	4081.4	4099.2	4117.1	4140.8	4144.8	4158.7
15°	4016.0	4004.1	4010.1	4029.9	4055.6	4075.5	4095.3	4109.1	4125.0	4121.0	4132.9
17.5°	4089.3	4059.6	4047.7	4049.7	4061.6	4075.5	4083.4	4085.4	4087.3	4069.5	4071.5
20°	4188.4	4146.8	4119.0	4105.2	4089.3	4075.5	4053.7	4027.9	4004.1	3968.5	3964.5
22.5°	4337.0	4275.6	4245.8	4208.2	4160.6	4101.2	4047.7	3984.3	3932.8	3879.3	3859.5
25°	4552.9	4489.5	4457.8	4398.4	4313.2	4228.0	4150.7	4065.5	3990.3	3926.9	3897.1
27.5°	4842.2	4778.8	4745.1	4683.7	4578.7	4493.5	4386.5	4295.4	4204.2	4111.1	4073.5
30°	5192.9	5137.4	5099.8	5050.2	4959.1	4866.0	4741.2	4600.5	4455.9	4307.3	4234.0
32.5°	5607.0	5545.5	5517.8	5460.4	5365.3	5268.2	5129.5	4949.2	4707.5	4473.7	4327.1
35°	6124.1	6054.7	6023.0	5947.7	5836.8	5694.1	5545.5	5303.8	4976.9	4652.0	4412.3
37.5°	6815.5	6661.0	6556.0	6383.6	6205.3	6005.2	5793.2	5545.5	5159.2	4757.0	4424.2
40°	7427.7	7271.2	7069.1	6821.5	6544.1	6268.7	6027.0	5745.7	5325.6	4832.3	4386.5
42.5°	8188.5	7911.2	7588.2	7253.4	6884.9	6546.1	6258.8	5927.9	5438.6	4852.1	4281.5
45°	8884.0	8553.1	8121.2	7675.4	7217.7	6791.8	6468.8	6100.3	5535.6	4852.1	4154.7
47.5°	9518.0	9121.7	8604.6	8049.9	7516.9	7051.3	6684.8	6276.6	5672.3	4913.5	4117.1
50°	10104.4	9648.7	9060.3	8416.4	7818.1	7320.8	6926.5	6502.5	5880.4	5072.0	4208.2
52.5°	10722.6	10239.2	9521.9	8838.4	8178.6	7645.7	7225.7	6781.9	6149.8	5321.7	4368.7
55°	11532.9	10966.3	10152.0	9399.1	8674.0	8085.5	7608.0	7116.7	6445.0	5603.0	4564.8
57.5°	12810.8	11988.6	11174.3	10195.6	9512.0	8737.4	8214.3	7649.6	6924.5	5969.5	4860.0
60°	15047.7	14037.2	13058.5	11933.1	11089.1	10278.8	9488.3	8751.2	7877.5	6797.7	5507.9
62.5°	18241.5	17215.2	15677.7	14300.7	13026.8	11952.9	10922.7	9985.5	8864.2	7683.3	6306.4
65°	20149.4	18974.5	17141.9	15291.4	13744.0	12412.6	11233.7	10086.6	8876.0	7724.9	6548.1
66°	20302.0	19190.5	17233.0	15277.5	13670.7	12289.8	11063.4	9876.6	8636.3	7534.7	6468.8
67.5°	20018.6	19061.7	17046.8	15008.0	13365.6	11873.7	10613.6	9369.4	8123.2	7102.8	6205.3
70°	18019.6	17328.1	15600.4	13690.5	12052.0	10736.4	9407.0	8210.3	7029.5	6171.6	5505.9
72.5°	14772.3	13896.6	12688.0	11404.1	10114.3	8947.4	7738.8	6720.4	5729.8	5105.7	4634.2
75°	10851.4	10062.8	8731.4	7931.0	7079.0	6346.0	5531.7	4566.8	3863.5	3550.4	3435.5
77.5°	6878.9	6023.0	4899.7	4016.0	3453.3	2967.9	2339.9	1860.4	1489.9	1551.3	1717.8
80°	3475.1	2993.7	2240.8	1769.3	1529.5	1272.0	1006.5	762.8	556.7	636.0	719.2
82.5°	2230.9	1862.4	1484.0	1168.9	986.7	869.8	695.4	505.2	376.4	424.0	519.1
85°	1343.3	1135.3	905.4	741.0	643.9	536.9	394.3	279.4	277.4	297.2	366.5
87.5°	204.1	291.2	168.4	180.3	190.2	204.1	180.3	152.6	132.7	172.4	217.9
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: P159845

CATALOG NUMBER: VST-F12-LED-E-U-T4

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8	4033.8
2.5°	4089.3	4093.3	4101.2	4111.1	4109.1	4123.0	4130.9	4123.0	4140.8	4140.8	4150.7
5°	4164.6	4170.6	4184.4	4194.3	4198.3	4210.2	4214.1	4212.2	4216.1	4218.1	4222.1
7.5°	4186.4	4202.3	4208.2	4214.1	4216.1	4220.1	4220.1	4216.1	4216.1	4214.1	4218.1
10°	4180.5	4186.4	4190.4	4188.4	4188.4	4184.4	4182.4	4180.5	4180.5	4176.5	4182.4
12.5°	4160.6	4160.6	4160.6	4156.7	4156.7	4154.7	4154.7	4154.7	4158.7	4160.6	4170.6
15°	4121.0	4121.0	4125.0	4123.0	4128.9	4138.9	4150.7	4158.7	4168.6	4170.6	4176.5
17.5°	4059.6	4061.6	4073.5	4099.2	4125.0	4154.7	4176.5	4182.4	4174.5	4154.7	4140.8
20°	3952.6	3978.4	4025.9	4087.3	4144.8	4182.4	4192.3	4168.6	4130.9	4079.4	4051.7
22.5°	3857.5	3909.0	3994.2	4095.3	4166.6	4192.3	4162.6	4107.2	4039.8	3980.4	3938.7
25°	3895.2	3954.6	4043.8	4130.9	4176.5	4162.6	4103.2	4023.9	3952.6	3883.3	3815.9
27.5°	4053.7	4113.1	4176.5	4202.3	4186.4	4134.9	4051.7	3966.5	3871.4	3772.3	3689.1
30°	4204.2	4237.9	4241.9	4216.1	4158.7	4075.5	3978.4	3879.3	3758.4	3639.6	3534.6
32.5°	4251.8	4212.2	4140.8	4067.5	3988.3	3903.1	3790.2	3659.4	3530.6	3395.9	3279.0
35°	4237.9	4077.4	3901.1	3744.6	3649.5	3552.4	3449.4	3275.0	3130.4	3015.5	2940.2
37.5°	4113.1	3819.9	3548.4	3320.6	3172.0	3057.1	2904.5	2759.9	2635.1	2583.6	2522.1
40°	3938.7	3491.0	3114.5	2795.6	2641.0	2494.4	2324.0	2213.1	2177.4	2129.9	2131.8
42.5°	3689.1	3106.6	2621.2	2254.7	2086.3	1925.8	1804.9	1739.5	1741.5	1701.9	1709.8
45°	3425.6	2720.3	2110.0	1745.5	1579.1	1442.4	1375.0	1355.2	1357.2	1359.1	1347.3
47.5°	3265.1	2419.1	1692.0	1323.5	1176.9	1099.6	1063.9	1054.0	1056.0	1058.0	1044.1
50°	3241.3	2262.6	1412.6	1012.4	917.3	873.7	855.9	846.0	846.0	838.1	826.2
52.5°	3308.7	2223.0	1275.9	877.7	786.6	746.9	733.1	725.1	713.3	697.4	675.6
55°	3415.7	2258.6	1234.3	832.1	743.0	703.3	685.5	681.6	661.7	632.0	596.4
57.5°	3613.8	2387.4	1262.1	844.0	750.9	715.2	703.3	699.4	671.6	626.1	580.5
60°	4182.4	2761.9	1400.8	911.4	808.4	778.6	778.6	772.7	735.0	669.7	604.3
62.5°	4967.0	3310.7	1589.0	1004.5	887.6	883.6	917.3	919.3	851.9	746.9	643.9
65°	5345.4	3568.2	1654.4	1024.3	909.4	955.0	1022.3	1022.3	927.2	782.6	649.9
66°	5347.4	3562.3	1634.5	1000.5	885.6	945.1	1014.4	1014.4	915.3	772.7	639.9
67.5°	5210.7	3451.4	1569.2	956.9	832.1	887.6	949.0	947.0	857.9	733.1	612.2
70°	4673.8	3053.1	1382.9	885.6	768.7	770.7	792.5	778.6	719.2	634.0	556.7
72.5°	4029.9	2553.8	1198.7	840.1	719.2	681.6	663.7	651.8	614.2	562.7	515.1
75°	3090.8	1983.2	1044.1	798.4	675.6	610.2	586.5	576.5	550.8	521.1	483.4
77.5°	1894.1	1359.1	885.6	731.1	626.1	566.6	540.9	521.1	495.3	467.6	441.8
80°	816.3	820.2	709.3	620.1	544.8	475.5	441.8	418.0	404.2	394.3	380.4
82.5°	570.6	588.4	540.9	481.4	416.1	366.5	336.8	330.9	332.9	332.9	328.9
85°	428.0	420.0	378.4	344.7	315.0	283.3	259.5	257.6	265.5	265.5	259.5
87.5°	247.7	249.6	214.0	200.1	208.0	178.3	162.5	164.4	184.3	182.3	178.3
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: P159845

CATALOG NUMBER: VST-F12-LED-E-U-T4

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	4033.8	4033.8	4033.8	4033.8	4033.8
2.5°	4150.7	4156.7	4154.7	4160.6	4154.7
5°	4228.0	4226.0	4224.0	4232.0	4222.1
7.5°	4216.1	4218.1	4218.1	4218.1	4216.1
10°	4186.4	4194.3	4198.3	4206.2	4204.2
12.5°	4176.5	4188.4	4200.3	4212.2	4214.1
15°	4178.5	4186.4	4192.3	4198.3	4200.3
17.5°	4127.0	4125.0	4119.0	4115.1	4111.1
20°	4022.0	4012.1	4002.1	3986.3	3994.2
22.5°	3891.2	3863.5	3831.8	3806.0	3804.0
25°	3738.6	3687.1	3635.6	3601.9	3590.0
27.5°	3603.9	3542.5	3489.0	3459.3	3451.4
30°	3443.4	3388.0	3340.4	3314.6	3298.8
32.5°	3205.7	3162.1	3102.7	3082.8	3080.9
35°	2874.8	2841.1	2799.5	2791.6	2781.7
37.5°	2500.3	2488.5	2468.6	2444.9	2440.9
40°	2100.1	2108.1	2102.1	2088.2	2066.5
42.5°	1713.8	1727.7	1729.6	1739.5	1749.5
45°	1365.1	1377.0	1377.0	1386.9	1398.8
47.5°	1048.1	1040.2	1046.1	1056.0	1062.0
50°	792.5	786.6	776.7	768.7	760.8
52.5°	638.0	626.1	598.3	590.4	582.5
55°	562.7	540.9	521.1	513.1	513.1
57.5°	540.9	513.1	491.4	481.4	477.5
60°	544.8	505.2	477.5	461.6	455.7
62.5°	562.7	507.2	469.6	451.7	445.8
65°	560.7	503.2	467.6	447.8	441.8
66°	550.8	497.3	463.6	445.8	441.8
67.5°	534.9	489.4	459.7	443.8	437.9
70°	503.2	473.5	451.7	437.9	431.9
72.5°	477.5	457.7	437.9	422.0	418.0
75°	453.7	433.9	416.1	408.1	402.2
77.5°	418.0	400.2	390.3	382.4	378.4
80°	370.5	358.6	346.7	338.8	332.9
82.5°	322.9	307.1	295.2	289.3	285.3
85°	263.5	253.6	235.8	223.9	221.9
87.5°	176.3	166.4	160.5	150.6	140.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)