

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: P159830

Luminaire Tested: **VST-E11-LED-E-U-T4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P159830
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-E11-LED-E-U-T4
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(11) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (231) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 32739.9 lumens
Efficiency: N/A
Efficacy: 121.4 lumens/watt
Luminous Opening: Rectangular (W 1.83' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G5

Input Watts (W): 269.7
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



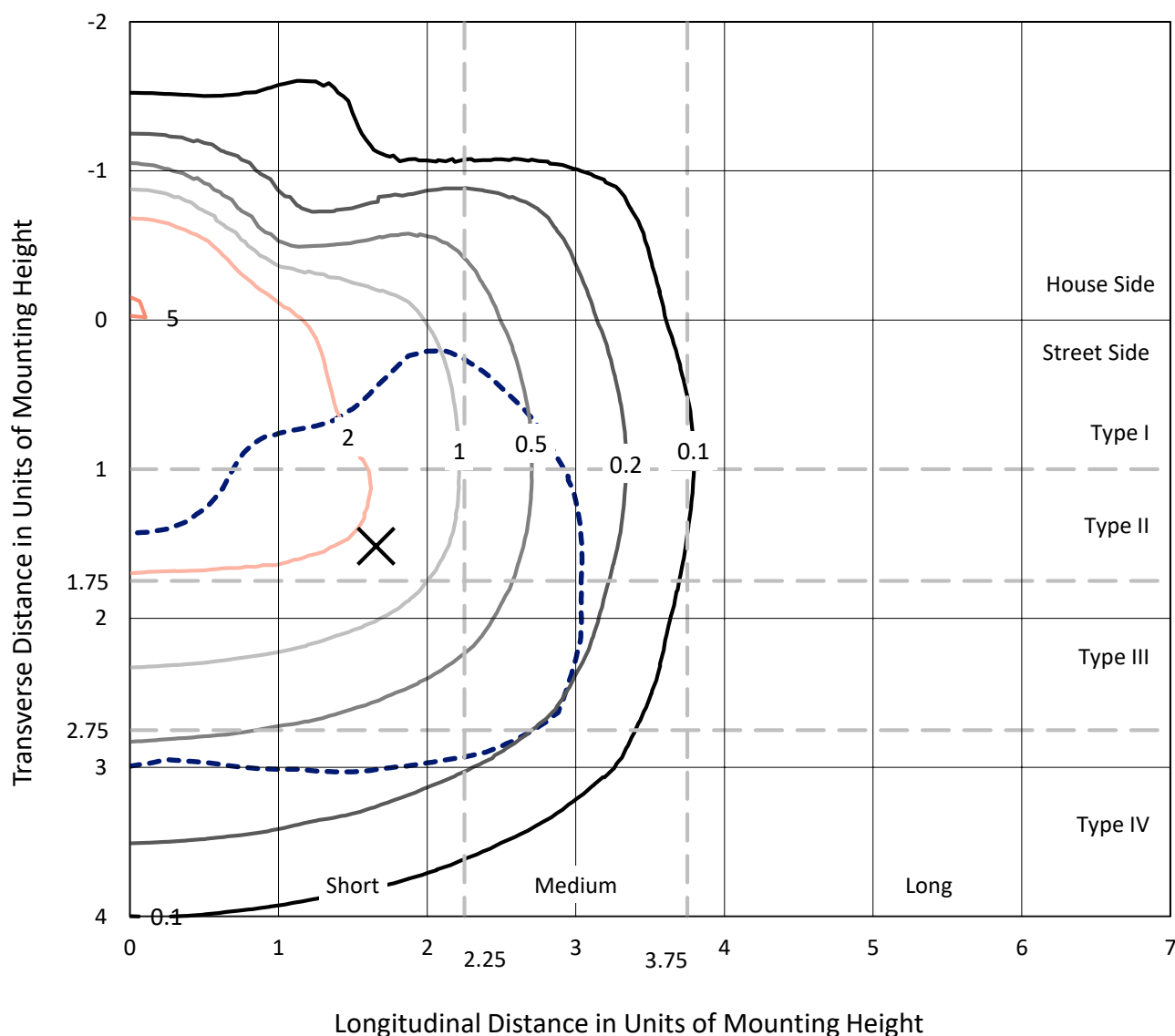
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

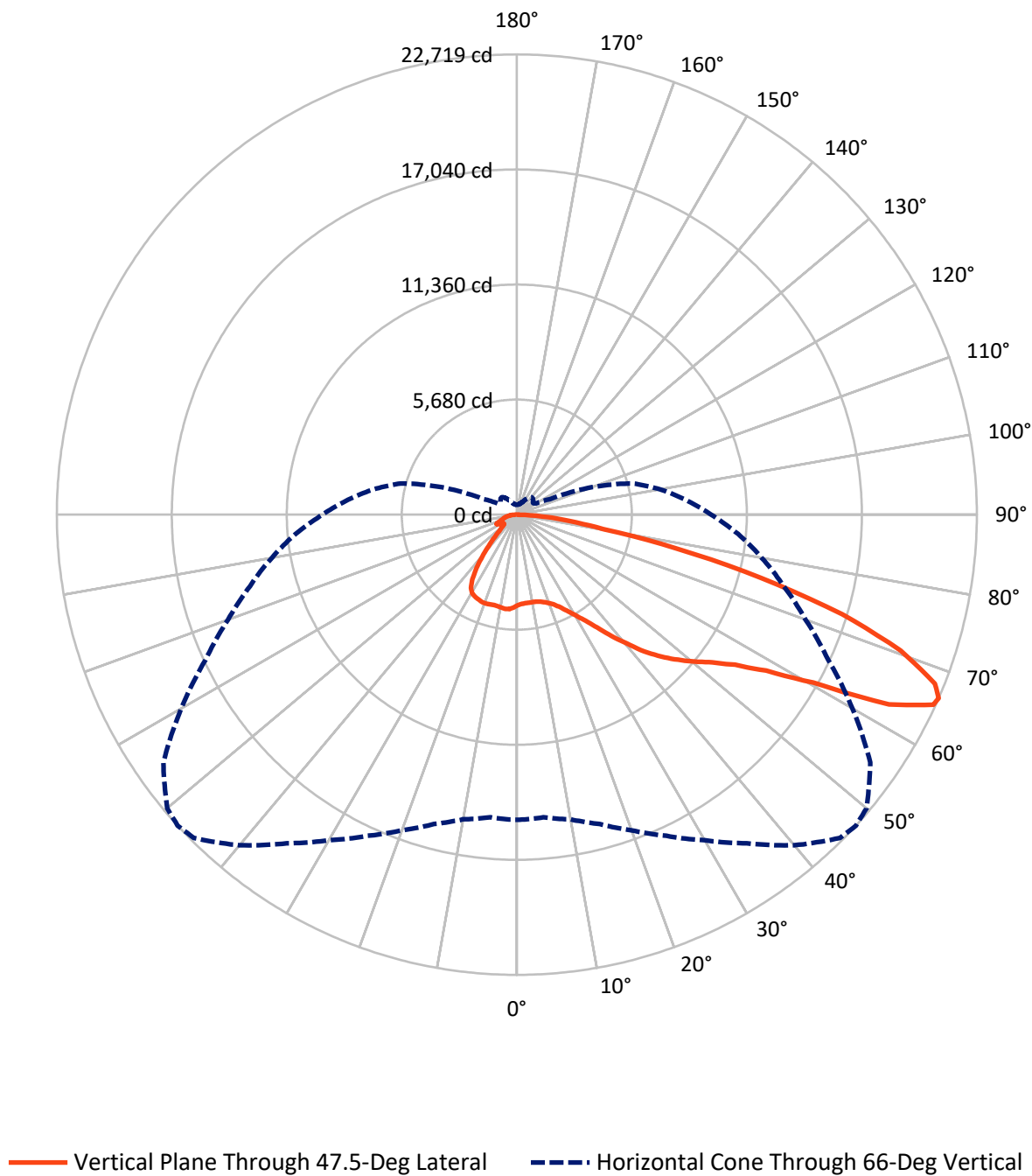


Based on 30 foot mounting height. Maximum calculated value = 5.1 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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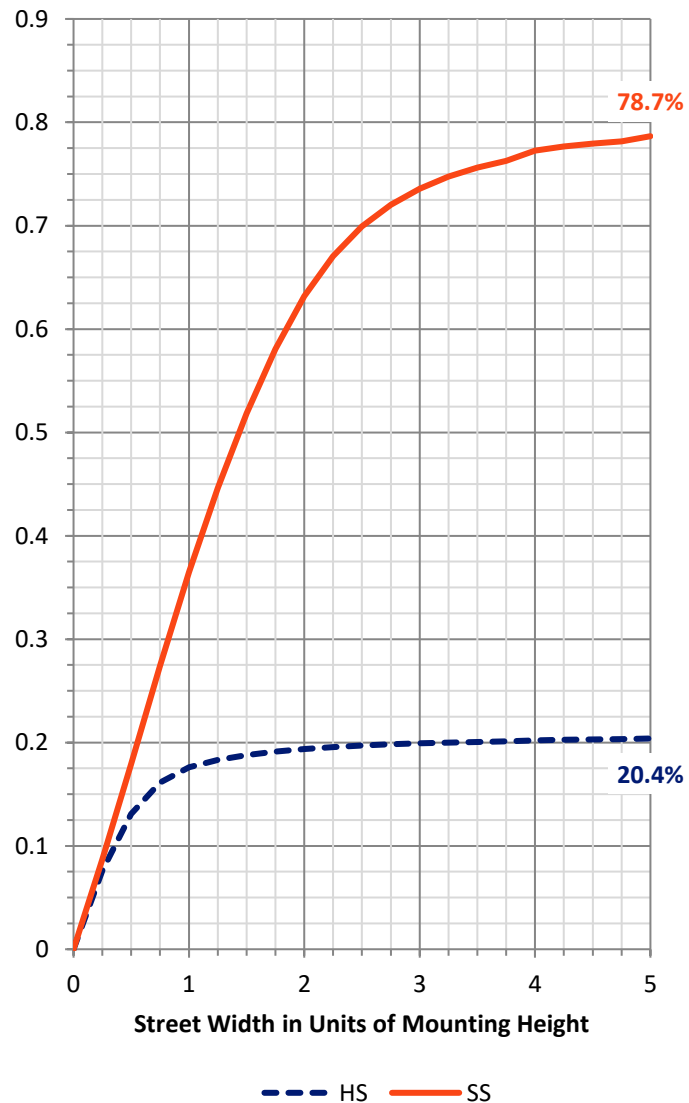
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6778.6	0.0	6778.6
	% Fixture	20.7	0.0	20.7
Street Side	Lumens	25961.3	0.0	25961.3
	% Fixture	79.3	0.0	79.3
Total	Lumens	32739.9	0.0	32739.9
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	431.7	1.3
10°-20°	1294.6	4.0
20°-30°	2209.0	6.7
30°-40°	3334.1	10.2
40°-50°	4333.5	13.2
50°-60°	5945.2	18.2
60°-70°	9145.6	27.9
70°-80°	5286.7	16.1
80°-90°	759.5	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°	32739.9	100.0
0°-180°	32739.9	100.0

Coefficient of Utilization



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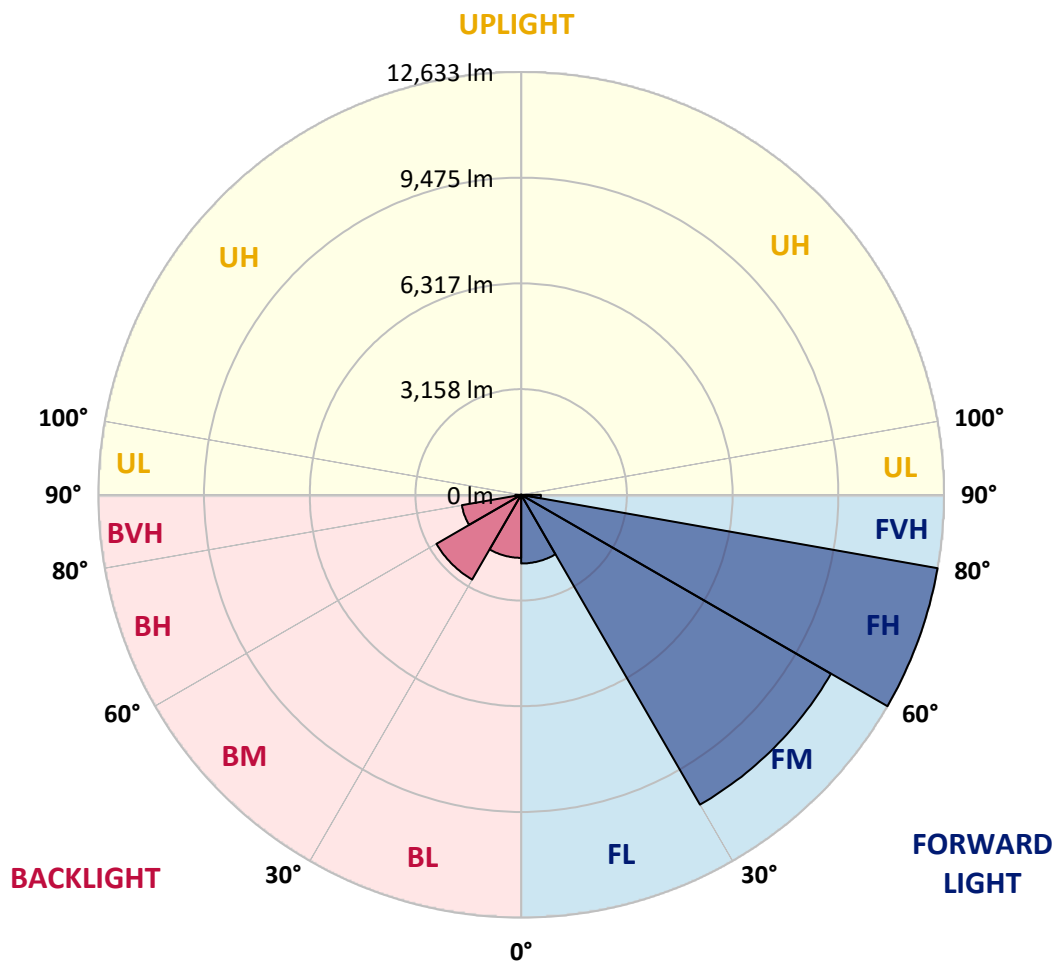
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2052.2	6.3			
FM	(30°-60°)	10688.2	32.6			
FH	(60°-80°)	12633.2	38.6			G5
FVH	(80°-90°)	587.7	1.8			G4/750
BL	(0°-30°)	1883.2	5.8	B3/2500		
BM	(30°-60°)	2924.6	8.9	B3/5000		
BH	(60°-80°)	1799.1	5.5	B3/2500		G3/2500
BVH	(80°-90°)	171.7	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-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	47.5°
0°	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2
2.5°	4364.8	4367.0	4369.2	4369.2	4375.8	4375.8	4386.8	4393.4	4395.6	4408.8	4417.6
5°	4283.4	4281.2	4283.4	4287.8	4298.8	4307.6	4329.6	4345.0	4358.2	4380.2	4391.2
7.5°	4248.2	4252.6	4257.0	4259.2	4268.0	4290.0	4309.8	4325.2	4351.6	4378.0	4389.0
10°	4294.4	4301.0	4294.4	4298.8	4298.8	4318.6	4327.4	4338.4	4358.2	4382.4	4389.0
12.5°	4402.2	4415.4	4402.2	4391.2	4382.4	4400.0	4395.6	4386.8	4397.8	4404.4	4404.4
15°	4580.4	4580.4	4571.6	4556.2	4534.2	4536.4	4516.6	4496.8	4488.0	4472.6	4461.6
17.5°	4754.2	4749.8	4730.0	4710.2	4694.8	4688.2	4659.6	4633.2	4602.4	4578.2	4551.8
20°	4923.6	4941.2	4917.0	4888.4	4864.2	4848.8	4826.8	4774.0	4736.6	4697.0	4670.6
22.5°	5216.2	5200.8	5174.4	5132.6	5108.4	5082.0	5035.8	4978.6	4921.4	4873.0	4840.0
25°	5517.6	5502.2	5464.8	5434.0	5398.8	5376.8	5326.2	5255.8	5200.8	5126.0	5082.0
27.5°	5841.0	5827.8	5783.8	5759.6	5735.4	5709.0	5665.0	5592.4	5541.8	5456.0	5409.8
30°	6206.2	6204.0	6144.6	6140.2	6105.0	6076.4	6045.6	5984.0	5933.4	5847.6	5792.6
32.5°	6595.6	6586.8	6545.0	6531.8	6556.0	6536.2	6492.2	6428.4	6362.4	6311.8	6250.2
35°	7150.0	7134.6	7110.4	7121.4	7136.8	7191.8	7123.6	7068.6	6989.4	6923.4	6837.6
37.5°	7554.8	7532.8	7561.4	7623.0	7711.0	7752.8	7812.2	7814.4	7777.0	7689.0	7614.2
40°	7926.6	7917.8	7983.8	8069.6	8232.4	8351.2	8463.4	8518.4	8531.6	8474.4	8362.2
42.5°	8241.2	8267.6	8355.6	8487.6	8716.4	8896.8	9105.8	9235.6	9317.0	9286.2	9235.6
45°	8615.2	8628.4	8736.2	8903.4	9121.2	9420.4	9695.4	9915.4	10058.4	10056.2	9999.0
47.5°	9083.8	9086.0	9178.4	9374.2	9607.4	9911.0	10258.6	10551.2	10740.4	10749.2	10705.2
50°	9640.4	9636.0	9737.2	9922.0	10170.6	10463.2	10832.8	11198.0	11462.0	11462.0	11398.2
52.5°	10357.6	10348.8	10403.8	10566.6	10806.4	11114.4	11481.8	11904.2	12190.2	12251.8	12113.2
55°	11314.6	11327.8	11341.0	11484.0	11688.6	11932.8	12355.2	12744.6	13127.4	13162.6	13081.2
57.5°	12421.2	12377.2	12471.8	12705.0	12938.2	13244.0	13543.2	14003.0	14456.2	14533.2	14522.2
60°	14150.4	14093.2	14190.0	14487.0	14744.4	15226.2	15738.8	16332.8	16869.6	17028.0	16836.6
62.5°	15741.0	15811.4	15943.4	16288.8	16662.8	17305.2	18075.2	19093.8	20112.4	20666.8	20627.2
65°	15598.0	15532.0	15785.0	16255.8	16933.4	17751.8	18708.8	19936.4	21403.8	22517.0	22616.0
66°	15067.8	14999.6	15272.4	15811.4	16585.8	17496.6	18559.2	19808.8	21309.2	22567.6	22719.4
67.5°	14192.2	14124.0	14432.0	14922.6	15721.2	16867.4	18015.8	19382.0	20941.8	22147.4	22270.6
70°	12502.6	12410.2	12650.0	13204.4	13851.2	14960.0	16053.4	17501.0	19102.6	20066.2	20112.4
72.5°	10590.8	10375.2	10630.4	11057.2	11519.2	12436.6	13389.2	14379.2	15655.2	16546.2	16801.4
75°	7684.6	7796.8	7871.6	8153.2	8459.0	9218.0	9776.8	10606.2	11594.0	12238.6	12443.2
77.5°	4076.6	4246.0	4351.6	4633.2	5139.2	5717.8	6322.8	6835.4	7484.4	7845.2	8096.0
80°	2288.0	2406.8	2578.4	2800.6	3047.0	3491.4	3850.0	4114.0	4206.4	4270.2	4327.4
82.5°	1258.4	1559.8	1815.0	1969.0	2114.2	2292.4	2505.8	2725.8	2796.2	2690.6	2635.6
85°	195.8	288.2	877.8	1071.4	1166.0	1302.4	1456.4	1619.2	1621.4	1394.8	1522.4
87.5°	55.0	61.6	125.4	189.2	184.8	149.6	184.8	336.6	198.0	99.0	114.4
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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CATALOG NUMBER: VST-E11-LED-E-U-T4

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2
2.5°	4422.0	4426.4	4437.4	4448.4	4459.4	4470.4	4477.0	4488.0	4496.8	4510.0	4525.4
5°	4404.4	4415.4	4435.2	4459.4	4481.4	4501.2	4516.6	4538.6	4558.4	4576.0	4602.4
7.5°	4404.4	4426.4	4459.4	4485.8	4505.6	4529.8	4554.0	4576.0	4598.0	4615.6	4633.2
10°	4406.6	4428.6	4461.6	4492.4	4514.4	4540.8	4560.6	4580.4	4604.6	4615.6	4637.6
12.5°	4415.4	4424.2	4448.4	4479.2	4505.6	4532.0	4551.8	4571.6	4598.0	4602.4	4617.8
15°	4459.4	4446.2	4452.8	4474.8	4503.4	4525.4	4547.4	4562.8	4580.4	4576.0	4589.2
17.5°	4540.8	4507.8	4494.6	4496.8	4510.0	4525.4	4534.2	4536.4	4538.6	4518.8	4521.0
20°	4650.8	4604.6	4573.8	4558.4	4540.8	4525.4	4501.2	4472.6	4446.2	4406.6	4402.2
22.5°	4815.8	4747.6	4714.6	4672.8	4620.0	4554.0	4494.6	4424.2	4367.0	4307.6	4285.6
25°	5055.6	4985.2	4950.0	4884.0	4789.4	4694.8	4609.0	4514.4	4430.8	4360.4	4327.4
27.5°	5376.8	5306.4	5269.0	5200.8	5084.2	4989.6	4870.8	4769.6	4668.4	4565.0	4523.2
30°	5766.2	5704.6	5662.8	5607.8	5506.6	5403.2	5264.6	5108.4	4947.8	4782.8	4701.4
32.5°	6226.0	6157.8	6127.0	6063.2	5957.6	5849.8	5695.8	5495.6	5227.2	4967.6	4804.8
35°	6800.2	6723.2	6688.0	6604.4	6481.2	6322.8	6157.8	5889.4	5526.4	5165.6	4899.4
37.5°	7568.0	7396.4	7279.8	7088.4	6890.4	6668.2	6432.8	6157.8	5728.8	5282.2	4912.6
40°	8247.8	8074.0	7849.6	7574.6	7266.6	6960.8	6692.4	6380.0	5913.6	5365.8	4870.8
42.5°	9092.6	8784.6	8426.0	8054.2	7645.0	7268.8	6949.8	6582.4	6039.0	5387.8	4754.2
45°	9864.8	9497.4	9017.8	8522.8	8014.6	7541.6	7183.0	6773.8	6146.8	5387.8	4613.4
47.5°	10568.8	10128.8	9554.6	8938.6	8346.8	7829.8	7422.8	6969.6	6298.6	5456.0	4571.6
50°	11220.0	10714.0	10060.6	9345.6	8681.2	8129.0	7691.2	7220.4	6529.6	5632.0	4672.8
52.5°	11906.4	11369.6	10573.2	9814.2	9081.6	8489.8	8023.4	7530.6	6828.8	5909.2	4851.0
55°	12806.2	12177.0	11272.8	10436.8	9631.6	8978.2	8448.0	7902.4	7156.6	6221.6	5068.8
57.5°	14225.2	13312.2	12408.0	11321.2	10562.2	9702.0	9121.2	8494.2	7689.0	6628.6	5396.6
60°	16709.0	15587.0	14500.2	13250.6	12313.4	11413.6	10535.8	9717.4	8747.2	7548.2	6116.0
62.5°	20255.4	19115.8	17408.6	15879.6	14465.0	13272.6	12128.6	11088.0	9842.8	8531.6	7002.6
65°	22374.0	21069.4	19034.4	16979.6	15261.4	13783.0	12474.0	11200.2	9856.0	8577.8	7271.0
66°	22543.4	21309.2	19135.6	16964.2	15180.0	13646.6	12284.8	10967.0	9589.8	8366.6	7183.0
67.5°	22228.8	21166.2	18928.8	16665.0	14841.2	13184.6	11785.4	10403.8	9020.0	7887.0	6890.4
70°	20009.0	19241.2	17322.8	15202.0	13382.6	11921.8	10445.6	9116.8	7805.6	6853.0	6113.8
72.5°	16403.2	15430.8	14088.8	12663.2	11231.0	9935.2	8593.2	7462.4	6362.4	5669.4	5145.8
75°	12049.4	11173.8	9695.4	8806.6	7860.6	7046.6	6142.4	5071.0	4290.0	3942.4	3814.8
77.5°	7638.4	6688.0	5440.6	4459.4	3834.6	3295.6	2598.2	2065.8	1654.4	1722.6	1907.4
80°	3858.8	3324.2	2488.2	1964.6	1698.4	1412.4	1117.6	847.0	618.2	706.2	798.6
82.5°	2477.2	2068.0	1647.8	1298.0	1095.6	965.8	772.2	561.0	418.0	470.8	576.4
85°	1491.6	1260.6	1005.4	822.8	715.0	596.2	437.8	310.2	308.0	330.0	407.0
87.5°	226.6	323.4	187.0	200.2	211.2	226.6	200.2	169.4	147.4	191.4	242.0
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°	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2	4479.2
2.5°	4540.8	4545.2	4554.0	4565.0	4562.8	4578.2	4587.0	4578.2	4598.0	4598.0	4609.0
5°	4624.4	4631.0	4646.4	4657.4	4661.8	4675.0	4679.4	4677.2	4681.6	4683.8	4688.2
7.5°	4648.6	4666.2	4672.8	4679.4	4681.6	4686.0	4686.0	4681.6	4681.6	4679.4	4683.8
10°	4642.0	4648.6	4653.0	4650.8	4650.8	4646.4	4644.2	4642.0	4642.0	4637.6	4644.2
12.5°	4620.0	4620.0	4620.0	4615.6	4615.6	4613.4	4613.4	4613.4	4617.8	4620.0	4631.0
15°	4576.0	4576.0	4580.4	4578.2	4584.8	4595.8	4609.0	4617.8	4628.8	4631.0	4637.6
17.5°	4507.8	4510.0	4523.2	4551.8	4580.4	4613.4	4637.6	4644.2	4635.4	4613.4	4598.0
20°	4389.0	4417.6	4470.4	4538.6	4602.4	4644.2	4655.2	4628.8	4587.0	4529.8	4499.0
22.5°	4283.4	4340.6	4435.2	4547.4	4626.6	4655.2	4622.2	4560.6	4485.8	4419.8	4373.6
25°	4325.2	4391.2	4490.2	4587.0	4637.6	4622.2	4556.2	4468.2	4389.0	4312.0	4237.2
27.5°	4501.2	4567.2	4637.6	4666.2	4648.6	4591.4	4499.0	4404.4	4298.8	4188.8	4096.4
30°	4668.4	4705.8	4710.2	4681.6	4617.8	4525.4	4417.6	4307.6	4173.4	4041.4	3924.8
32.5°	4721.2	4677.2	4598.0	4516.6	4428.6	4334.0	4208.6	4063.4	3920.4	3770.8	3641.0
35°	4705.8	4527.6	4331.8	4158.0	4052.4	3944.6	3830.2	3636.6	3476.0	3348.4	3264.8
37.5°	4567.2	4241.6	3940.2	3687.2	3522.2	3394.6	3225.2	3064.6	2926.0	2868.8	2800.6
40°	4373.6	3876.4	3458.4	3104.2	2932.6	2769.8	2580.6	2457.4	2417.8	2365.0	2367.2
42.5°	4096.4	3449.6	2910.6	2503.6	2316.6	2138.4	2004.2	1931.6	1933.8	1889.8	1898.6
45°	3803.8	3020.6	2343.0	1938.2	1753.4	1601.6	1526.8	1504.8	1507.0	1509.2	1496.0
47.5°	3625.6	2686.2	1878.8	1469.6	1306.8	1221.0	1181.4	1170.4	1172.6	1174.8	1159.4
50°	3599.2	2512.4	1568.6	1124.2	1018.6	970.2	950.4	939.4	939.4	930.6	917.4
52.5°	3674.0	2468.4	1416.8	974.6	873.4	829.4	814.0	805.2	792.0	774.4	750.2
55°	3792.8	2508.0	1370.6	924.0	825.0	781.0	761.2	756.8	734.8	701.8	662.2
57.5°	4012.8	2651.0	1401.4	937.2	833.8	794.2	781.0	776.6	745.8	695.2	644.6
60°	4644.2	3066.8	1555.4	1012.0	897.6	864.6	864.6	858.0	816.2	743.6	671.0
62.5°	5515.4	3676.2	1764.4	1115.4	985.6	981.2	1018.6	1020.8	946.0	829.4	715.0
65°	5935.6	3962.2	1837.0	1137.4	1009.8	1060.4	1135.2	1135.2	1029.6	869.0	721.6
66°	5937.8	3955.6	1815.0	1111.0	983.4	1049.4	1126.4	1126.4	1016.4	858.0	710.6
67.5°	5786.0	3832.4	1742.4	1062.6	924.0	985.6	1053.8	1051.6	952.6	814.0	679.8
70°	5189.8	3390.2	1535.6	983.4	853.6	855.8	880.0	864.6	798.6	704.0	618.2
72.5°	4474.8	2835.8	1331.0	932.8	798.6	756.8	737.0	723.8	682.0	624.8	572.0
75°	3432.0	2202.2	1159.4	886.6	750.2	677.6	651.2	640.2	611.6	578.6	536.8
77.5°	2103.2	1509.2	983.4	811.8	695.2	629.2	600.6	578.6	550.0	519.2	490.6
80°	906.4	910.8	787.6	688.6	605.0	528.0	490.6	464.2	448.8	437.8	422.4
82.5°	633.6	653.4	600.6	534.6	462.0	407.0	374.0	367.4	369.6	369.6	365.2
85°	475.2	466.4	420.2	382.8	349.8	314.6	288.2	286.0	294.8	294.8	288.2
87.5°	275.0	277.2	237.6	222.2	231.0	198.0	180.4	182.6	204.6	202.4	198.0
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):

	160°	165°	170°	175°	180°
0°	4479.2	4479.2	4479.2	4479.2	4479.2
2.5°	4609.0	4615.6	4613.4	4620.0	4613.4
5°	4694.8	4692.6	4690.4	4699.2	4688.2
7.5°	4681.6	4683.8	4683.8	4683.8	4681.6
10°	4648.6	4657.4	4661.8	4670.6	4668.4
12.5°	4637.6	4650.8	4664.0	4677.2	4679.4
15°	4639.8	4648.6	4655.2	4661.8	4664.0
17.5°	4582.6	4580.4	4573.8	4569.4	4565.0
20°	4466.0	4455.0	4444.0	4426.4	4435.2
22.5°	4320.8	4290.0	4254.8	4226.2	4224.0
25°	4151.4	4094.2	4037.0	3999.6	3986.4
27.5°	4001.8	3933.6	3874.2	3841.2	3832.4
30°	3823.6	3762.0	3709.2	3680.6	3663.0
32.5°	3559.6	3511.2	3445.2	3423.2	3421.0
35°	3192.2	3154.8	3108.6	3099.8	3088.8
37.5°	2776.4	2763.2	2741.2	2714.8	2710.4
40°	2332.0	2340.8	2334.2	2318.8	2294.6
42.5°	1903.0	1918.4	1920.6	1931.6	1942.6
45°	1515.8	1529.0	1529.0	1540.0	1553.2
47.5°	1163.8	1155.0	1161.6	1172.6	1179.2
50°	880.0	873.4	862.4	853.6	844.8
52.5°	708.4	695.2	664.4	655.6	646.8
55°	624.8	600.6	578.6	569.8	569.8
57.5°	600.6	569.8	545.6	534.6	530.2
60°	605.0	561.0	530.2	512.6	506.0
62.5°	624.8	563.2	521.4	501.6	495.0
65°	622.6	558.8	519.2	497.2	490.6
66°	611.6	552.2	514.8	495.0	490.6
67.5°	594.0	543.4	510.4	492.8	486.2
70°	558.8	525.8	501.6	486.2	479.6
72.5°	530.2	508.2	486.2	468.6	464.2
75°	503.8	481.8	462.0	453.2	446.6
77.5°	464.2	444.4	433.4	424.6	420.2
80°	411.4	398.2	385.0	376.2	369.6
82.5°	358.6	341.0	327.8	321.2	316.8
85°	292.6	281.6	261.8	248.6	246.4
87.5°	195.8	184.8	178.2	167.2	156.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)