

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: P158498

Luminaire Tested: **VST-E10-LED-E-U-SL3-8030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P158498  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33713)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: VST-E10-LED-E-U-SL3-8030  
Description: VENTUS LED SITE/ROADWAY LUMINAIRE  
(10) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 W/ SPILL LIGHT CONTROL  
Light Source: (210) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 25462.1 lumens  
Efficiency: N/A  
Efficacy: 102.8 lumens/watt  
Luminous Opening: Rectangular (W 1.67' x L: 1' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B3 - U0 - G4

Input Watts (W): 247.7  
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

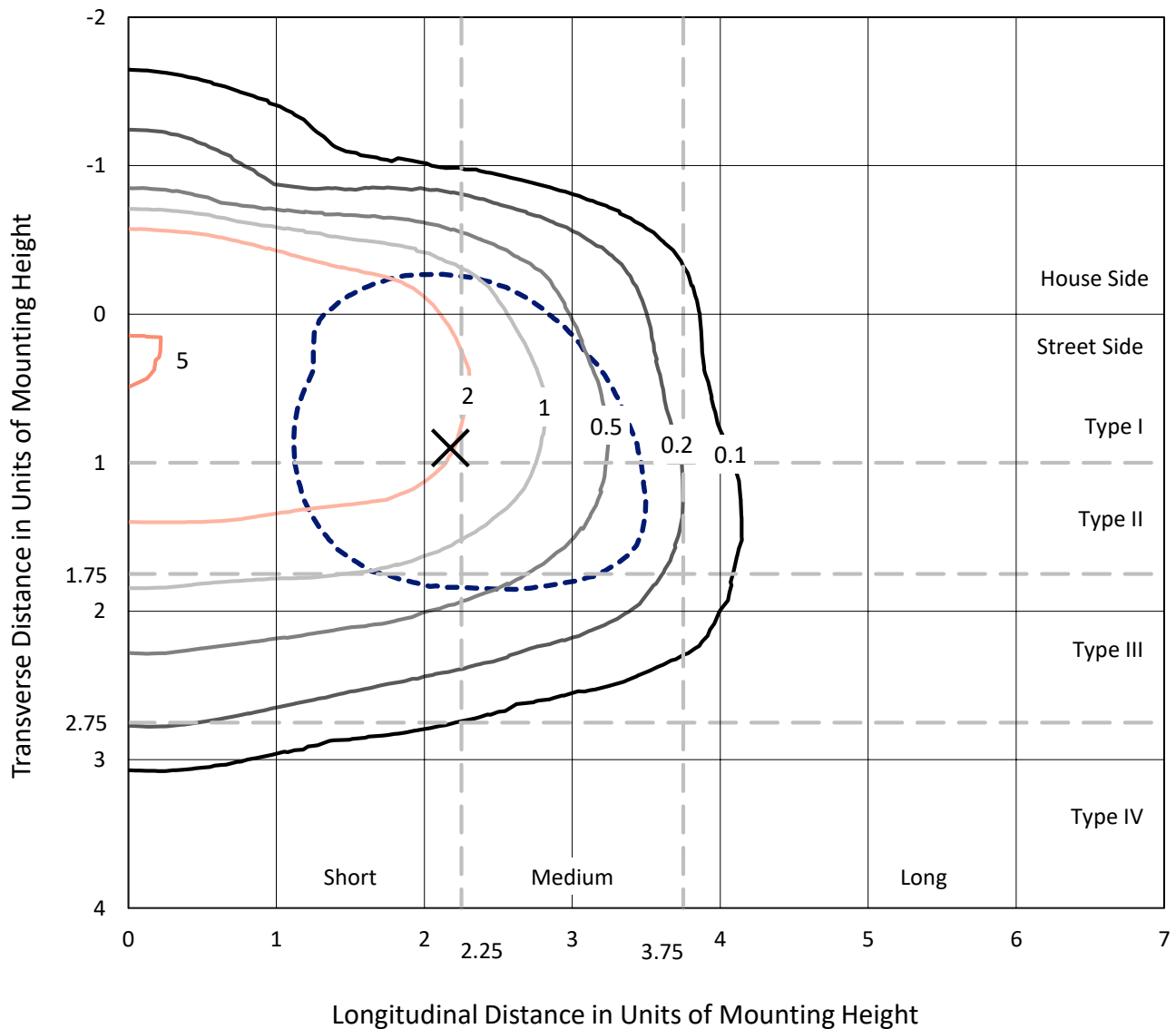


REPORT NUMBER: P158498

CATALOG NUMBER: VST-E10-LED-E-U-SL3-8030

## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

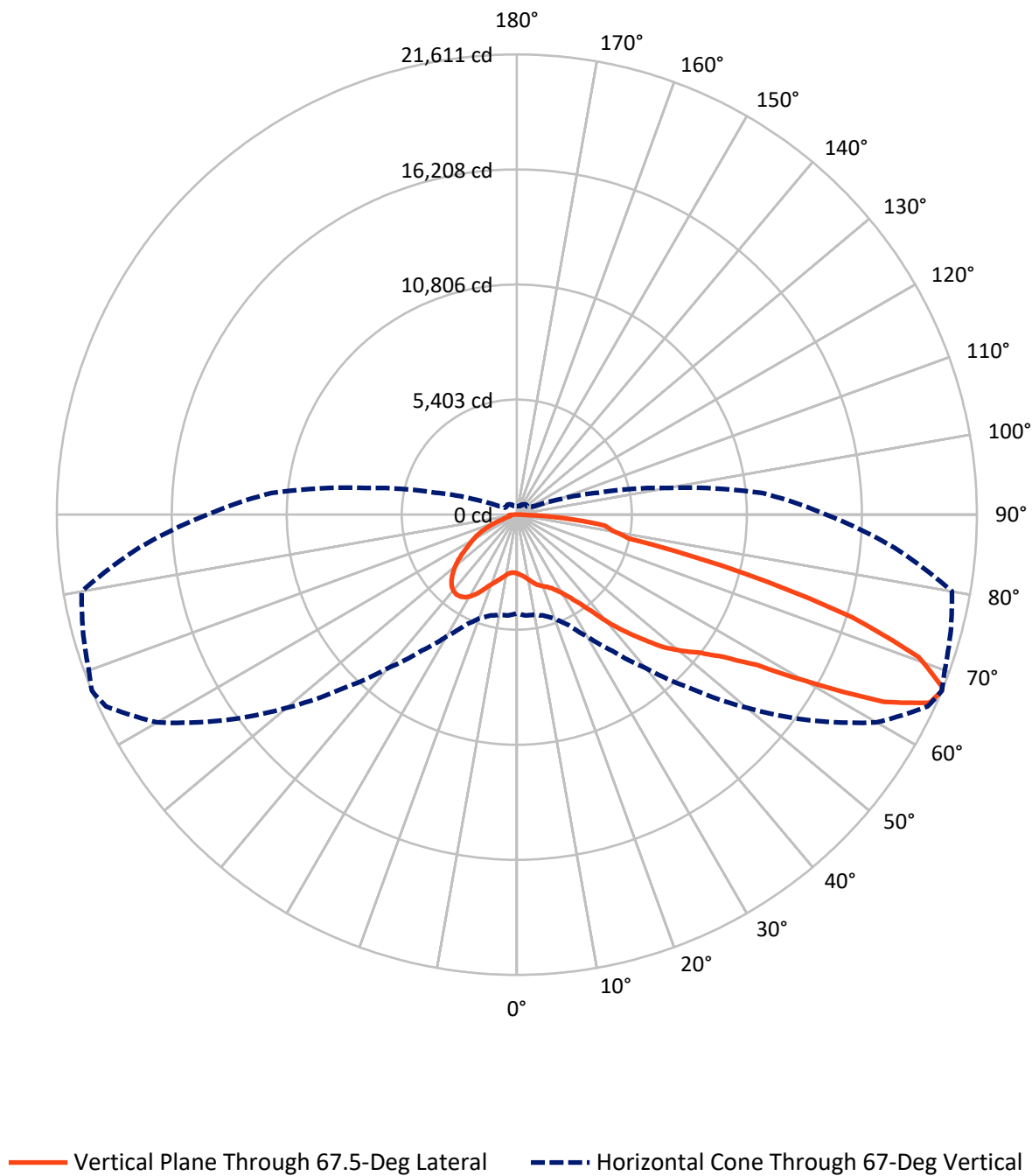


Based on 25 foot mounting height. Maximum calculated value = 5.5 fc  
 Type III - Short - Semi-Cutoff

REPORT NUMBER: P158498

CATALOG NUMBER: VST-E10-LED-E-U-SL3-8030

## Luminous Intensity Polar Plot



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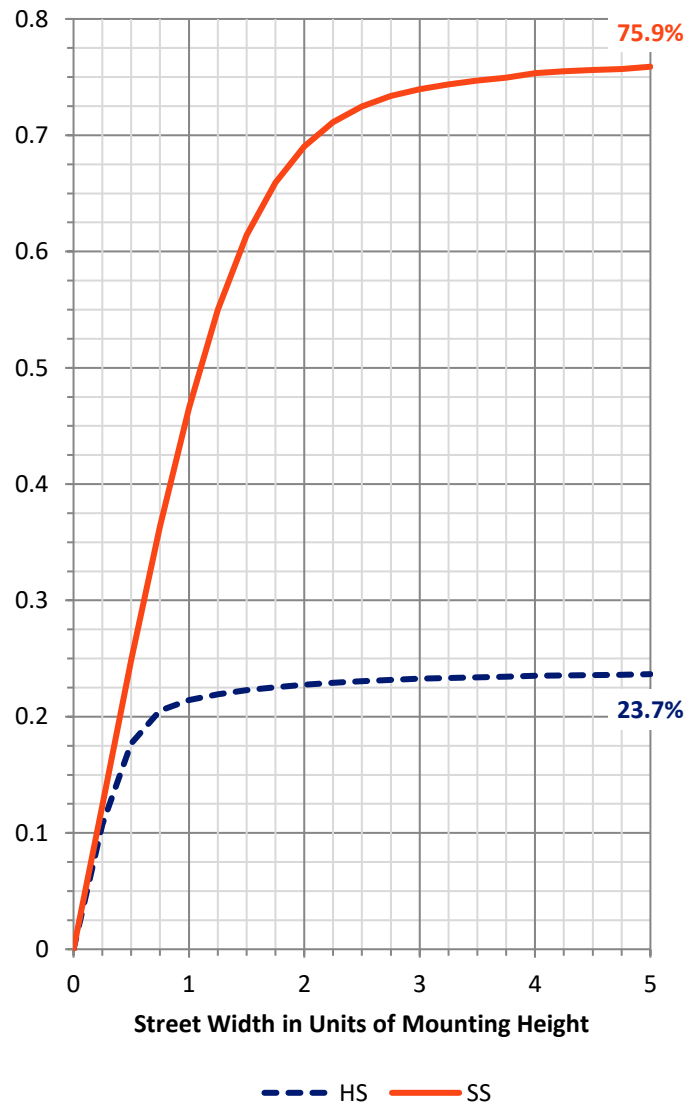
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 6108.4   | 0.0    | 6108.4  |
|                    | % Fixture | 24.0     | 0.0    | 24.0    |
| <b>Street Side</b> | Lumens    | 19353.7  | 0.0    | 19353.7 |
|                    | % Fixture | 76.0     | 0.0    | 76.0    |
| <b>Total</b>       | Lumens    | 25462.1  | 0.0    | 25462.1 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 274.3   | 1.1       |
| 10°-20°   | 934.5   | 3.7       |
| 20°-30°   | 1668.4  | 6.6       |
| 30°-40°   | 2445.2  | 9.6       |
| 40°-50°   | 3778.1  | 14.8      |
| 50°-60°   | 5501.6  | 21.6      |
| 60°-70°   | 7166.8  | 28.1      |
| 70°-80°   | 3208.1  | 12.6      |
| 80°-90°   | 485.1   | 1.9       |
| 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°    | 25462.1 | 100.0     |
| 0°-180°   | 25462.1 | 100.0     |

**Coefficient of Utilization**



REPORT NUMBER: P158498

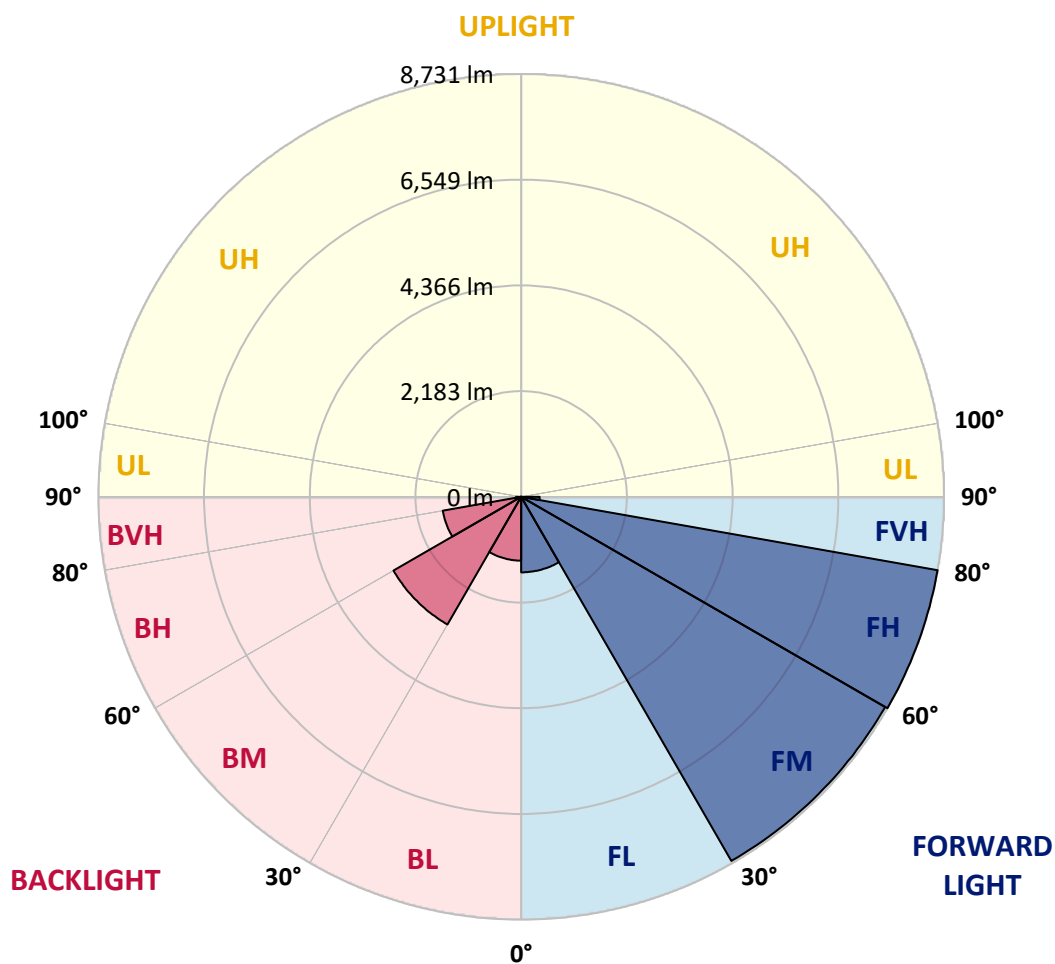
CATALOG NUMBER: VST-E10-LED-E-U-SL3-8030

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|--------|-----------|-------------------------|------|----------|
|      |             |        |           | B                       | U    | G        |
| FL   | (0°-30°)    | 1560.1 | 6.1       |                         |      |          |
| FM   | (30°-60°)   | 8681.2 | 34.1      |                         |      |          |
| FH   | (60°-80°)   | 8731.5 | 34.3      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 380.9  | 1.5       |                         |      | G3/500   |
| BL   | (0°-30°)    | 1317.2 | 5.2       | B3/2500                 |      |          |
| BM   | (30°-60°)   | 3043.7 | 12.0      | B3/5000                 |      |          |
| BH   | (60°-80°)   | 1643.4 | 6.5       | B3/2500                 |      | G3/2500  |
| BVH  | (80°-90°)   | 104.2  | 0.4       |                         |      | 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 III Short





REPORT NUMBER: P158498

CATALOG NUMBER: VST-E10-LED-E-U-SL3-8030

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°     | 45°     | 50°     |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| 0°    | 2759.9 | 2759.9 | 2759.9 | 2759.9 | 2759.9 | 2759.9 | 2759.9 | 2759.9 | 2759.9  | 2759.9  | 2759.9  |
| 2.5°  | 2867.9 | 2874.6 | 2876.3 | 2874.6 | 2876.3 | 2869.6 | 2867.9 | 2857.8 | 2862.8  | 2849.3  | 2845.9  |
| 5°    | 3023.2 | 3028.2 | 3031.6 | 3018.1 | 3021.5 | 3014.7 | 3006.3 | 2996.2 | 2982.7  | 2964.1  | 2952.3  |
| 7.5°  | 3175.1 | 3183.5 | 3181.8 | 3176.8 | 3165.0 | 3158.2 | 3141.3 | 3126.1 | 3102.5  | 3080.6  | 3065.4  |
| 10°   | 3379.3 | 3377.7 | 3377.7 | 3349.0 | 3332.1 | 3316.9 | 3286.5 | 3262.9 | 3239.2  | 3207.2  | 3190.3  |
| 12.5° | 3615.7 | 3603.8 | 3598.8 | 3578.5 | 3543.1 | 3516.1 | 3472.2 | 3426.6 | 3384.4  | 3350.6  | 3323.6  |
| 15°   | 3843.5 | 3843.5 | 3830.0 | 3798.0 | 3764.2 | 3728.8 | 3666.3 | 3600.5 | 3531.3  | 3477.2  | 3450.2  |
| 17.5° | 4051.2 | 4032.6 | 4020.8 | 3978.6 | 3943.1 | 3885.7 | 3816.5 | 3745.6 | 3659.5  | 3583.6  | 3531.3  |
| 20°   | 4203.1 | 4187.9 | 4162.6 | 4110.2 | 4049.5 | 3981.9 | 3900.9 | 3818.2 | 3725.4  | 3642.7  | 3583.6  |
| 22.5° | 4290.8 | 4272.3 | 4233.5 | 4164.3 | 4081.5 | 3987.0 | 3892.5 | 3814.8 | 3730.4  | 3668.0  | 3619.0  |
| 25°   | 4336.4 | 4317.9 | 4265.5 | 4174.4 | 4063.0 | 3938.1 | 3830.0 | 3754.1 | 3705.1  | 3689.9  | 3683.2  |
| 27.5° | 4334.7 | 4319.5 | 4263.8 | 4159.2 | 4015.7 | 3872.2 | 3755.8 | 3691.6 | 3686.6  | 3745.6  | 3789.5  |
| 30°   | 4290.8 | 4280.7 | 4230.1 | 4125.4 | 3975.2 | 3825.0 | 3716.9 | 3683.2 | 3735.5  | 3860.4  | 3968.4  |
| 32.5° | 4247.0 | 4241.9 | 4206.5 | 4111.9 | 3983.6 | 3857.0 | 3782.8 | 3786.1 | 3894.2  | 4086.6  | 4260.5  |
| 35°   | 4252.0 | 4258.8 | 4253.7 | 4203.1 | 4122.1 | 4056.2 | 4020.8 | 4095.0 | 4263.8  | 4496.8  | 4729.7  |
| 37.5° | 4295.9 | 4321.2 | 4353.3 | 4358.4 | 4360.1 | 4349.9 | 4424.2 | 4581.2 | 4827.6  | 5131.5  | 5496.1  |
| 40°   | 4392.1 | 4420.8 | 4513.7 | 4594.7 | 4699.3 | 4824.3 | 4974.5 | 5192.2 | 5497.8  | 5872.5  | 6319.8  |
| 42.5° | 4690.9 | 4731.4 | 4846.2 | 4996.4 | 5188.9 | 5384.7 | 5609.2 | 5906.2 | 6281.0  | 6676.0  | 7145.2  |
| 45°   | 5080.8 | 5165.2 | 5291.8 | 5458.9 | 5747.6 | 6022.7 | 6313.1 | 6645.6 | 7043.9  | 7538.5  | 8011.2  |
| 47.5° | 5567.0 | 5651.4 | 5835.4 | 6014.3 | 6355.3 | 6697.9 | 7015.3 | 7363.0 | 7795.1  | 8301.5  | 8824.8  |
| 50°   | 5992.3 | 6088.6 | 6252.3 | 6493.7 | 6888.7 | 7309.0 | 7660.1 | 8036.5 | 8399.4  | 8932.8  | 9461.1  |
| 52.5° | 6326.6 | 6395.8 | 6552.7 | 6773.9 | 7214.4 | 7675.3 | 8119.2 | 8537.8 | 8968.2  | 9501.6  | 9991.2  |
| 55°   | 6368.8 | 6432.9 | 6586.5 | 6839.7 | 7287.0 | 7798.5 | 8309.9 | 8806.2 | 9415.6  | 9997.9  | 10646.1 |
| 57.5° | 6186.5 | 6238.8 | 6394.1 | 6620.3 | 7055.8 | 7638.1 | 8284.6 | 8921.0 | 9700.8  | 10487.4 | 11279.1 |
| 60°   | 5928.2 | 5980.5 | 6102.1 | 6282.7 | 6676.0 | 7303.9 | 8058.4 | 8929.4 | 9965.8  | 11101.9 | 12266.6 |
| 62.5° | 5644.6 | 5690.2 | 5788.1 | 5916.4 | 6262.4 | 6841.4 | 7705.6 | 8873.7 | 10181.9 | 11712.9 | 13508.9 |
| 65°   | 5166.9 | 5276.6 | 5318.8 | 5450.5 | 5796.5 | 6343.4 | 7222.9 | 8497.3 | 10094.1 | 11984.7 | 14288.8 |
| 67°   | 4638.6 | 4750.0 | 4771.9 | 4905.3 | 5182.1 | 5707.1 | 6601.7 | 7800.2 | 9398.7  | 11515.4 | 14116.6 |
| 67.5° | 4469.8 | 4564.3 | 4598.1 | 4731.4 | 4993.1 | 5487.6 | 6336.7 | 7548.7 | 9186.0  | 11258.8 | 13909.0 |
| 70°   | 3286.5 | 3391.2 | 3428.3 | 3484.0 | 3671.4 | 4083.2 | 4645.3 | 5696.9 | 7324.2  | 9187.7  | 11733.2 |
| 72.5° | 1758.9 | 1843.3 | 1878.7 | 1961.4 | 2057.6 | 2282.2 | 2712.6 | 3467.1 | 4495.1  | 6147.6  | 8347.1  |
| 75°   | 1190.0 | 1223.8 | 1249.1 | 1306.5 | 1406.1 | 1585.0 | 1774.1 | 2039.1 | 2660.3  | 3468.8  | 4750.0  |
| 77.5° | 678.6  | 693.8  | 697.1  | 707.3  | 786.6  | 957.1  | 1267.7 | 1716.7 | 2201.1  | 2513.4  | 3038.4  |
| 80°   | 293.7  | 324.1  | 347.7  | 332.5  | 327.5  | 362.9  | 454.1  | 676.9  | 1326.8  | 2106.6  | 2499.9  |
| 82.5° | 158.7  | 172.2  | 192.4  | 194.1  | 204.2  | 216.1  | 234.6  | 278.5  | 391.6   | 790.0   | 1723.4  |
| 85°   | 82.7   | 86.1   | 114.8  | 131.7  | 140.1  | 146.9  | 150.2  | 167.1  | 192.4   | 244.8   | 428.7   |
| 87.5° | 11.8   | 16.9   | 20.3   | 27.0   | 30.4   | 32.1   | 37.1   | 47.3   | 55.7    | 67.5    | 114.8   |
| 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: P158498

CATALOG NUMBER: VST-E10-LED-E-U-SL3-8030

**CANDELA DISTRIBUTION (continued):**

|       | 55°     | 60°     | 65°     | 67.5°   | 70°     | 75°     | 80°     | 85°     | 90°     | 95°     | 100°   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0°    | 2759.9  | 2759.9  | 2759.9  | 2759.9  | 2759.9  | 2759.9  | 2759.9  | 2759.9  | 2759.9  | 2759.9  | 2759.9 |
| 2.5°  | 2830.7  | 2827.4  | 2817.2  | 2810.5  | 2803.7  | 2797.0  | 2788.5  | 2781.8  | 2770.0  | 2761.5  | 2751.4 |
| 5°    | 2935.4  | 2915.1  | 2901.6  | 2883.1  | 2879.7  | 2857.8  | 2835.8  | 2825.7  | 2805.4  | 2788.5  | 2768.3 |
| 7.5°  | 3041.7  | 3018.1  | 2996.2  | 2981.0  | 2972.5  | 2942.2  | 2920.2  | 2894.9  | 2871.3  | 2849.3  | 2825.7 |
| 10°   | 3166.7  | 3143.0  | 3119.4  | 3109.3  | 3094.1  | 3065.4  | 3046.8  | 3014.7  | 2991.1  | 2964.1  | 2932.0 |
| 12.5° | 3296.6  | 3279.7  | 3262.9  | 3249.4  | 3242.6  | 3229.1  | 3202.1  | 3175.1  | 3143.0  | 3116.0  | 3078.9 |
| 15°   | 3411.4  | 3399.6  | 3392.8  | 3389.5  | 3389.5  | 3381.0  | 3355.7  | 3330.4  | 3296.6  | 3266.2  | 3225.7 |
| 17.5° | 3492.4  | 3487.4  | 3492.4  | 3497.5  | 3504.3  | 3497.5  | 3492.4  | 3463.7  | 3441.8  | 3404.7  | 3364.1 |
| 20°   | 3539.7  | 3549.8  | 3575.1  | 3592.0  | 3607.2  | 3619.0  | 3624.1  | 3600.5  | 3571.8  | 3544.8  | 3517.8 |
| 22.5° | 3590.3  | 3619.0  | 3662.9  | 3688.2  | 3713.6  | 3755.8  | 3765.9  | 3749.0  | 3727.1  | 3710.2  | 3681.5 |
| 25°   | 3674.7  | 3716.9  | 3792.9  | 3833.4  | 3868.9  | 3931.3  | 3939.7  | 3943.1  | 3938.1  | 3924.6  | 3889.1 |
| 27.5° | 3806.4  | 3889.1  | 3990.4  | 4042.7  | 4081.5  | 4162.6  | 4194.6  | 4194.6  | 4181.1  | 4196.3  | 4196.3 |
| 30°   | 4036.0  | 4145.7  | 4277.3  | 4307.7  | 4368.5  | 4439.4  | 4491.7  | 4498.5  | 4500.2  | 4532.2  | 4579.5 |
| 32.5° | 4388.8  | 4493.4  | 4640.3  | 4674.0  | 4726.3  | 4793.9  | 4852.9  | 4846.2  | 4861.4  | 4930.6  | 4993.1 |
| 35°   | 4901.9  | 5008.2  | 5104.5  | 5150.0  | 5173.7  | 5234.4  | 5256.4  | 5293.5  | 5339.1  | 5425.2  | 5416.7 |
| 37.5° | 5661.5  | 5756.0  | 5769.5  | 5798.2  | 5769.5  | 5781.3  | 5798.2  | 5842.1  | 5963.6  | 6041.3  | 5916.4 |
| 40°   | 6576.4  | 6733.4  | 6718.2  | 6684.4  | 6620.3  | 6534.2  | 6564.6  | 6632.1  | 6763.7  | 6696.2  | 6360.3 |
| 42.5° | 7438.9  | 7601.0  | 7570.6  | 7531.8  | 7390.0  | 7357.9  | 7354.5  | 7410.2  | 7481.1  | 7288.7  | 6708.0 |
| 45°   | 8288.0  | 8453.4  | 8401.1  | 8379.1  | 8284.6  | 8215.4  | 8272.8  | 8276.2  | 8257.6  | 7845.7  | 7011.9 |
| 47.5° | 9164.1  | 9316.0  | 9282.2  | 9300.8  | 9202.9  | 9157.3  | 9162.4  | 9138.7  | 8964.9  | 8318.4  | 7248.2 |
| 50°   | 9871.3  | 10075.6 | 10095.8 | 10053.6 | 10001.3 | 9932.1  | 10109.3 | 10045.2 | 9658.6  | 8777.5  | 7476.1 |
| 52.5° | 10421.6 | 10696.7 | 10801.4 | 10774.4 | 10732.2 | 10740.6 | 11073.2 | 11145.7 | 10506.0 | 9356.5  | 7727.6 |
| 55°   | 11073.2 | 11507.0 | 11677.5 | 11778.7 | 11734.8 | 11903.6 | 12664.9 | 12702.1 | 11684.2 | 10112.7 | 8055.0 |
| 57.5° | 12013.4 | 12634.5 | 13173.0 | 13316.5 | 13454.9 | 14003.5 | 15239.1 | 14862.7 | 13213.5 | 11257.2 | 8470.3 |
| 60°   | 13443.1 | 14803.6 | 15678.0 | 16137.1 | 16461.2 | 17227.5 | 18402.4 | 17448.7 | 15119.3 | 12619.4 | 8991.9 |
| 62.5° | 15445.0 | 17433.5 | 18895.3 | 19356.1 | 19489.4 | 19930.0 | 20780.7 | 18956.0 | 16157.4 | 13230.4 | 9037.5 |
| 65°   | 16935.5 | 19320.6 | 21071.1 | 21307.4 | 21148.7 | 21157.2 | 21380.0 | 18876.7 | 15770.8 | 12697.0 | 8254.2 |
| 67°   | 16837.6 | 19508.0 | 21300.6 | 21611.2 | 21391.8 | 21103.1 | 20755.4 | 17801.5 | 14528.5 | 11579.6 | 7227.9 |
| 67.5° | 16687.4 | 19327.4 | 21201.1 | 21528.5 | 21327.7 | 20998.5 | 20490.4 | 17384.5 | 14141.9 | 11231.8 | 7018.6 |
| 70°   | 14425.5 | 17046.9 | 19570.5 | 20031.3 | 20115.7 | 19815.2 | 18388.9 | 14658.4 | 11481.7 | 9137.0  | 5450.5 |
| 72.5° | 11228.5 | 13562.9 | 16059.5 | 16459.5 | 16783.6 | 15917.7 | 13384.0 | 10124.5 | 8369.0  | 6584.8  | 3946.5 |
| 75°   | 7413.6  | 9788.6  | 11047.8 | 11106.9 | 10693.4 | 9089.8  | 6539.2  | 5070.7  | 4667.3  | 3870.5  | 2442.5 |
| 77.5° | 3966.8  | 5756.0  | 5791.5  | 5362.7  | 5166.9  | 3852.0  | 1563.1  | 862.6   | 960.5   | 1090.4  | 972.3  |
| 80°   | 2959.0  | 3666.3  | 4248.7  | 4567.7  | 4662.2  | 3303.4  | 808.5   | 457.4   | 400.1   | 364.6   | 359.5  |
| 82.5° | 2668.7  | 3541.4  | 3970.1  | 4144.0  | 4100.1  | 2717.7  | 454.1   | 307.2   | 254.9   | 276.8   | 315.7  |
| 85°   | 1046.5  | 1890.5  | 2486.4  | 2407.1  | 2022.2  | 1012.8  | 248.1   | 165.4   | 165.4   | 239.7   | 310.6  |
| 87.5° | 214.4   | 388.2   | 526.7   | 503.0   | 452.4   | 195.8   | 121.5   | 99.6    | 101.3   | 194.1   | 293.7  |
| 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: P158498

CATALOG NUMBER: VST-E10-LED-E-U-SL3-8030

**CANDELA DISTRIBUTION (continued):**

|       | 105°   | 110°   | 115°   | 120°   | 125°   | 130°   | 135°   | 140°   | 145°   | 150°   | 155°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2759.9 | 2759.9 | 2759.9 | 2759.9 | 2759.9 | 2759.9 | 2759.9 | 2759.9 | 2759.9 | 2759.9 | 2759.9 |
| 2.5°  | 2741.3 | 2731.2 | 2724.4 | 2717.7 | 2710.9 | 2707.5 | 2702.5 | 2702.5 | 2692.3 | 2689.0 | 2685.6 |
| 5°    | 2753.1 | 2736.2 | 2724.4 | 2709.2 | 2697.4 | 2687.3 | 2673.8 | 2670.4 | 2658.6 | 2650.1 | 2646.8 |
| 7.5°  | 2803.7 | 2778.4 | 2753.1 | 2734.5 | 2717.7 | 2695.7 | 2680.5 | 2667.0 | 2655.2 | 2646.8 | 2636.6 |
| 10°   | 2900.0 | 2872.9 | 2837.5 | 2803.7 | 2781.8 | 2748.0 | 2724.4 | 2700.8 | 2687.3 | 2677.1 | 2663.6 |
| 12.5° | 3041.7 | 3002.9 | 2960.7 | 2920.2 | 2883.1 | 2839.2 | 2815.6 | 2786.9 | 2770.0 | 2761.5 | 2751.4 |
| 15°   | 3186.9 | 3144.7 | 3092.4 | 3053.6 | 3011.4 | 2977.6 | 2955.7 | 2930.3 | 2916.8 | 2906.7 | 2900.0 |
| 17.5° | 3335.5 | 3286.5 | 3249.4 | 3210.5 | 3190.3 | 3165.0 | 3136.3 | 3104.2 | 3065.4 | 3041.7 | 3009.7 |
| 20°   | 3487.4 | 3450.2 | 3428.3 | 3406.3 | 3382.7 | 3347.3 | 3289.9 | 3224.0 | 3151.5 | 3082.3 | 3016.4 |
| 22.5° | 3664.6 | 3642.7 | 3639.3 | 3619.0 | 3570.1 | 3485.7 | 3379.3 | 3256.1 | 3132.9 | 3018.1 | 2928.6 |
| 25°   | 3914.4 | 3914.4 | 3897.6 | 3814.8 | 3700.1 | 3548.1 | 3369.2 | 3192.0 | 3028.2 | 2871.3 | 2753.1 |
| 27.5° | 4228.4 | 4216.6 | 4133.9 | 3963.4 | 3757.4 | 3521.1 | 3281.4 | 3056.9 | 2847.6 | 2675.5 | 2523.5 |
| 30°   | 4574.4 | 4491.7 | 4314.5 | 4046.1 | 3737.2 | 3433.4 | 3139.6 | 2879.7 | 2633.3 | 2422.3 | 2243.3 |
| 32.5° | 4934.0 | 4733.1 | 4414.1 | 4046.1 | 3666.3 | 3301.7 | 2962.4 | 2643.4 | 2361.5 | 2125.2 | 1912.5 |
| 35°   | 5259.8 | 4893.5 | 4437.7 | 3980.3 | 3527.9 | 3107.6 | 2714.3 | 2353.0 | 2015.5 | 1760.6 | 1527.6 |
| 37.5° | 5555.1 | 4999.8 | 4412.4 | 3852.0 | 3327.0 | 2834.1 | 2373.3 | 1974.9 | 1593.5 | 1347.0 | 1147.8 |
| 40°   | 5747.6 | 5021.7 | 4307.7 | 3651.1 | 3040.1 | 2464.5 | 1954.7 | 1509.1 | 1206.9 | 982.4  | 849.1  |
| 42.5° | 5867.4 | 4979.5 | 4138.9 | 3376.0 | 2653.5 | 2000.3 | 1466.9 | 1082.0 | 857.5  | 732.6  | 681.9  |
| 45°   | 5934.9 | 4869.8 | 3889.1 | 2999.5 | 2185.9 | 1520.9 | 1041.5 | 781.5  | 660.0  | 616.1  | 599.2  |
| 47.5° | 5931.6 | 4692.6 | 3576.8 | 2564.0 | 1669.4 | 1060.1 | 737.6  | 609.4  | 575.6  | 562.1  | 558.7  |
| 50°   | 5896.1 | 4474.8 | 3210.5 | 2091.4 | 1205.2 | 739.3  | 584.0  | 546.9  | 538.5  | 530.0  | 526.7  |
| 52.5° | 5847.2 | 4204.8 | 2805.4 | 1630.6 | 855.8  | 590.8  | 530.0  | 519.9  | 513.1  | 504.7  | 501.3  |
| 55°   | 5756.0 | 3872.2 | 2366.6 | 1227.2 | 670.1  | 533.4  | 511.5  | 508.1  | 499.6  | 487.8  | 481.1  |
| 57.5° | 5644.6 | 3534.6 | 1946.2 | 958.8  | 592.5  | 519.9  | 508.1  | 503.0  | 491.2  | 477.7  | 464.2  |
| 60°   | 5604.1 | 3256.1 | 1617.1 | 808.5  | 573.9  | 525.0  | 516.5  | 509.8  | 492.9  | 472.6  | 457.4  |
| 62.5° | 5350.9 | 2942.2 | 1380.8 | 749.5  | 584.0  | 546.9  | 543.5  | 533.4  | 508.1  | 484.5  | 460.8  |
| 65°   | 4696.0 | 2488.1 | 1169.8 | 709.0  | 604.3  | 584.0  | 587.4  | 572.2  | 546.9  | 514.8  | 472.6  |
| 67°   | 3971.8 | 2029.0 | 974.0  | 670.1  | 619.5  | 622.9  | 634.7  | 622.9  | 590.8  | 545.2  | 487.8  |
| 67.5° | 3779.4 | 1912.5 | 925.0  | 658.3  | 622.9  | 633.0  | 646.5  | 638.1  | 606.0  | 553.7  | 494.6  |
| 70°   | 2808.8 | 1347.0 | 690.4  | 595.9  | 622.9  | 663.4  | 693.8  | 702.2  | 666.8  | 594.2  | 508.1  |
| 72.5° | 1978.3 | 869.3  | 530.0  | 516.5  | 565.5  | 619.5  | 676.9  | 705.6  | 665.1  | 585.7  | 489.5  |
| 75°   | 1188.3 | 543.5  | 430.4  | 438.9  | 476.0  | 531.7  | 577.3  | 589.1  | 538.5  | 487.8  | 423.7  |
| 77.5° | 550.3  | 361.2  | 337.6  | 349.4  | 384.9  | 410.2  | 410.2  | 386.5  | 347.7  | 317.3  | 303.8  |
| 80°   | 324.1  | 295.4  | 293.7  | 315.7  | 339.3  | 320.7  | 292.0  | 259.9  | 239.7  | 229.6  | 224.5  |
| 82.5° | 303.8  | 315.7  | 335.9  | 341.0  | 322.4  | 276.8  | 241.4  | 209.3  | 199.2  | 194.1  | 189.1  |
| 85°   | 357.9  | 383.2  | 349.4  | 322.4  | 285.3  | 232.9  | 189.1  | 162.0  | 157.0  | 151.9  | 145.2  |
| 87.5° | 330.8  | 315.7  | 275.1  | 236.3  | 195.8  | 141.8  | 103.0  | 92.8   | 99.6   | 97.9   | 94.5   |
| 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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|       | 160°   | 165°   | 170°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2759.9 | 2759.9 | 2759.9 | 2759.9 | 2759.9 |
| 2.5°  | 2687.3 | 2687.3 | 2680.5 | 2677.1 | 2685.6 |
| 5°    | 2640.0 | 2641.7 | 2636.6 | 2634.9 | 2636.6 |
| 7.5°  | 2629.9 | 2628.2 | 2624.8 | 2621.4 | 2624.8 |
| 10°   | 2660.3 | 2658.6 | 2653.5 | 2656.9 | 2651.8 |
| 12.5° | 2751.4 | 2761.5 | 2759.9 | 2763.2 | 2770.0 |
| 15°   | 2900.0 | 2898.3 | 2893.2 | 2896.6 | 2901.6 |
| 17.5° | 2984.4 | 2970.8 | 2959.0 | 2954.0 | 2954.0 |
| 20°   | 2964.1 | 2925.3 | 2905.0 | 2893.2 | 2889.8 |
| 22.5° | 2844.2 | 2788.5 | 2746.3 | 2736.2 | 2727.8 |
| 25°   | 2648.4 | 2579.2 | 2525.2 | 2513.4 | 2491.5 |
| 27.5° | 2420.6 | 2327.7 | 2263.6 | 2250.1 | 2238.3 |
| 30°   | 2121.8 | 2015.5 | 1941.2 | 1893.9 | 1909.1 |
| 32.5° | 1757.2 | 1655.9 | 1569.8 | 1493.9 | 1482.0 |
| 35°   | 1357.1 | 1245.7 | 1169.8 | 1136.0 | 1114.1 |
| 37.5° | 1012.8 | 920.0  | 869.3  | 837.2  | 838.9  |
| 40°   | 774.8  | 725.8  | 698.8  | 676.9  | 678.6  |
| 42.5° | 646.5  | 624.6  | 617.8  | 607.7  | 602.6  |
| 45°   | 585.7  | 579.0  | 580.7  | 570.5  | 567.2  |
| 47.5° | 552.0  | 546.9  | 548.6  | 541.8  | 540.2  |
| 50°   | 525.0  | 521.6  | 523.3  | 518.2  | 516.5  |
| 52.5° | 498.0  | 499.6  | 498.0  | 494.6  | 494.6  |
| 55°   | 474.3  | 472.6  | 476.0  | 470.9  | 470.9  |
| 57.5° | 455.8  | 454.1  | 454.1  | 452.4  | 452.4  |
| 60°   | 445.6  | 438.9  | 437.2  | 437.2  | 438.9  |
| 62.5° | 440.6  | 428.7  | 427.1  | 427.1  | 428.7  |
| 65°   | 442.3  | 423.7  | 416.9  | 415.2  | 413.6  |
| 67°   | 443.9  | 416.9  | 403.4  | 396.7  | 395.0  |
| 67.5° | 445.6  | 413.6  | 398.4  | 391.6  | 388.2  |
| 70°   | 435.5  | 389.9  | 368.0  | 356.2  | 352.8  |
| 72.5° | 410.2  | 361.2  | 334.2  | 319.0  | 315.7  |
| 75°   | 364.6  | 327.5  | 303.8  | 287.0  | 280.2  |
| 77.5° | 281.9  | 265.0  | 256.6  | 246.4  | 243.1  |
| 80°   | 219.4  | 211.0  | 207.6  | 200.9  | 199.2  |
| 82.5° | 182.3  | 173.9  | 168.8  | 160.4  | 155.3  |
| 85°   | 141.8  | 131.7  | 128.3  | 121.5  | 118.2  |
| 87.5° | 92.8   | 87.8   | 86.1   | 77.6   | 74.3   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)