

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: LUMARK

Report Number: P233590

Luminaire Tested: **VRDN-C028-D-UNV-T4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P233590  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1710-389-15)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: VRDN-C028-D-UNV-T4  
Description: VERDEON ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 4000K, 930mA LEDS AND TYPE IV OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9197 lumens  
Efficiency: N/A  
Efficacy: 126.0 lumens/watt  
Luminous Opening: Rectangular (W 0.79' x L: 1.25' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G3

Input Watts (W): 73  
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: 25 FT

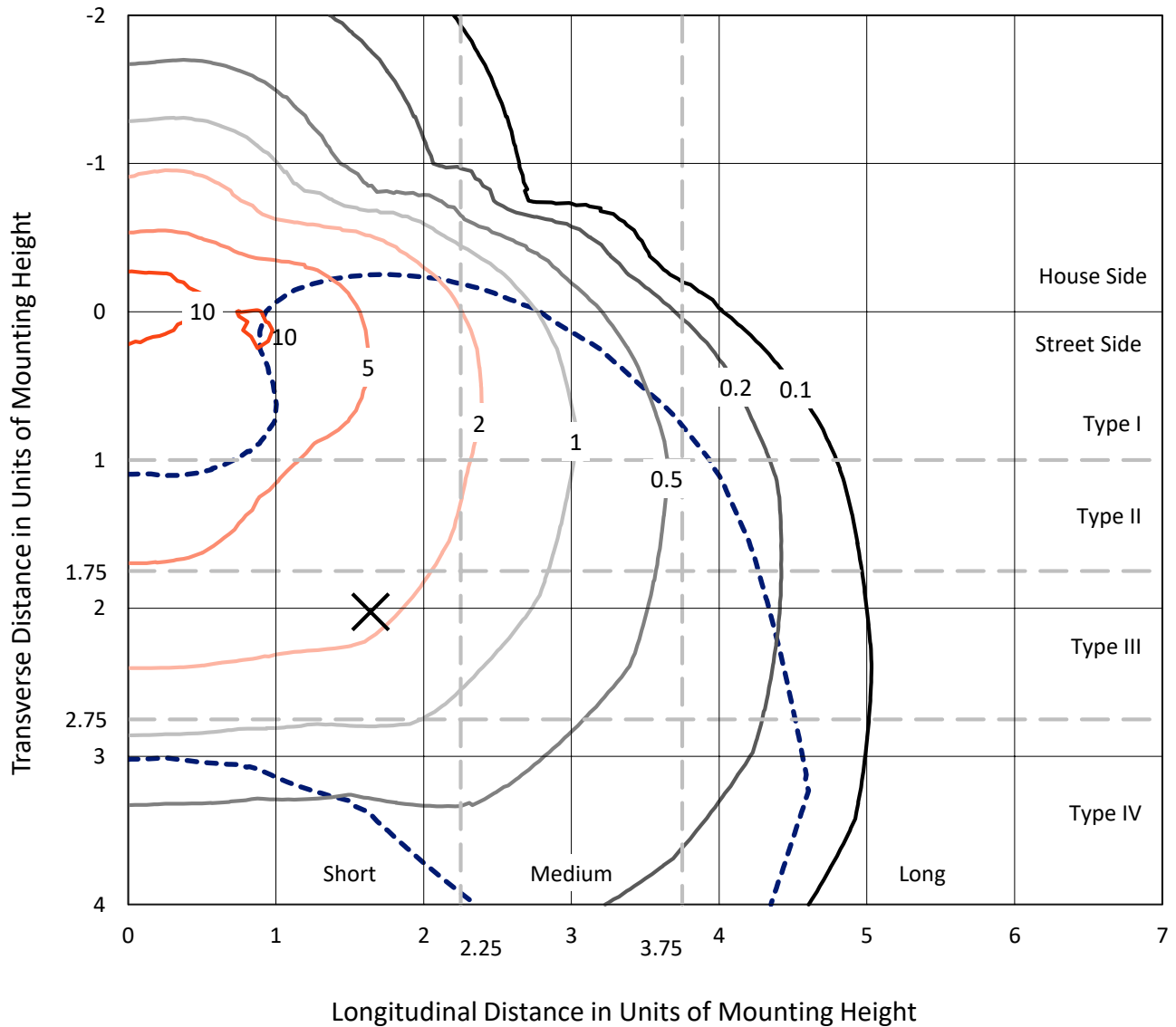


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### Iso-Footcandle Lines of Horizontal Illumination

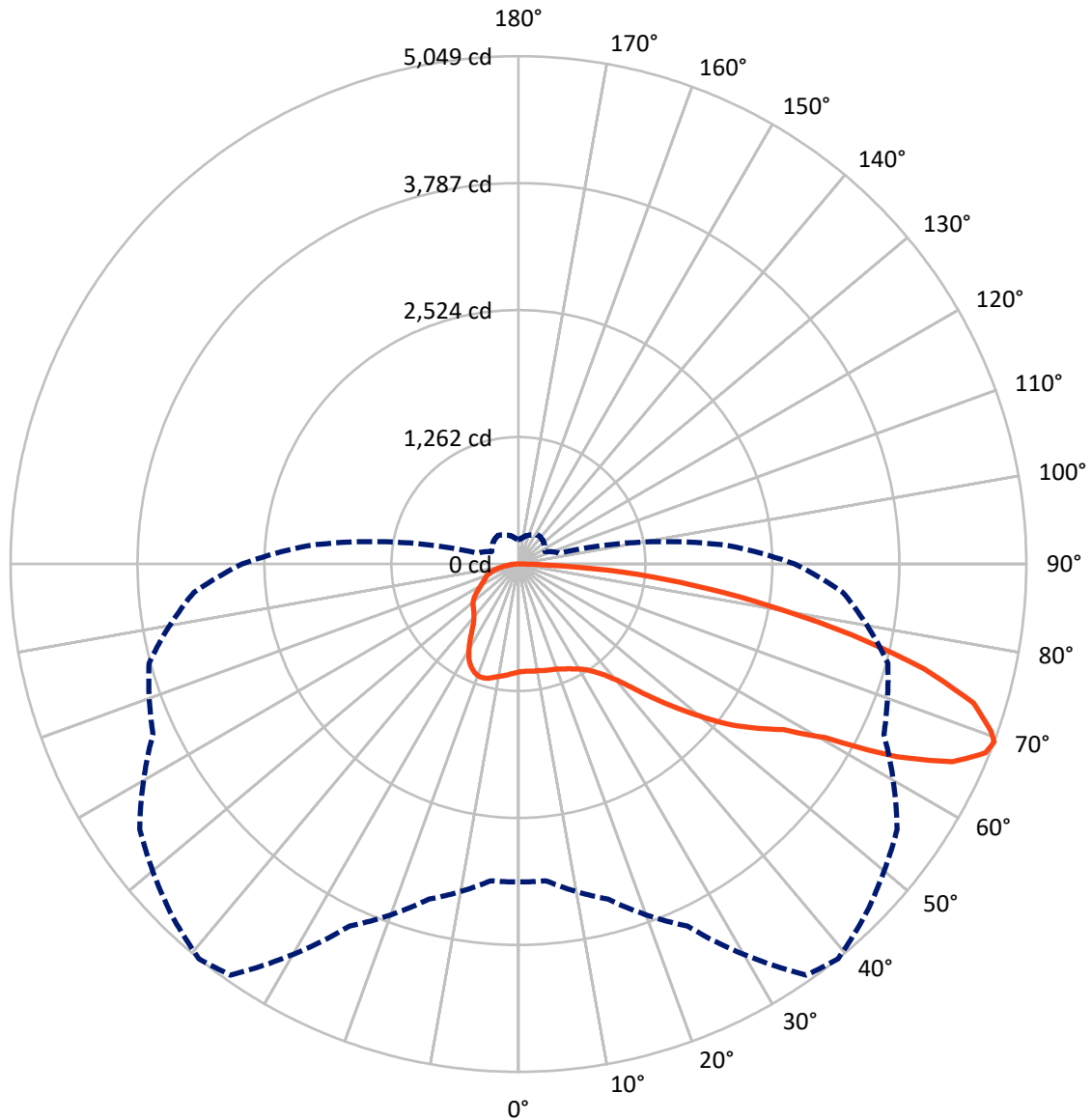
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.1 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical

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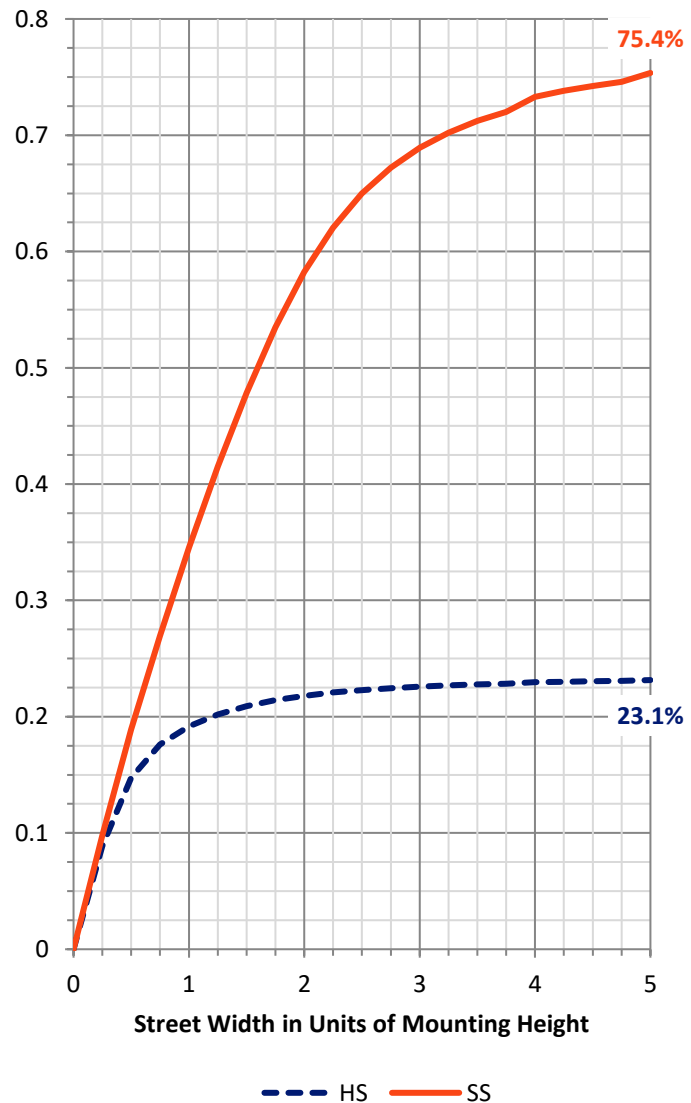
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2155.9	0.0	2155.9
	% Fixture	23.4	0.0	23.4
<b>Street Side</b>	Lumens	7041.1	0.0	7041.1
	% Fixture	76.6	0.0	76.6
<b>Total</b>	Lumens	9197.0	0.0	9197.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.1	1.1
10°-20°	321.8	3.5
20°-30°	541.7	5.9
30°-40°	784.7	8.5
40°-50°	1268.5	13.8
50°-60°	1857.1	20.2
60°-70°	2324.4	25.3
70°-80°	1661.6	18.1
80°-90°	333.2	3.6
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°	9197.0	100.0
0°-180°	9197.0	100.0



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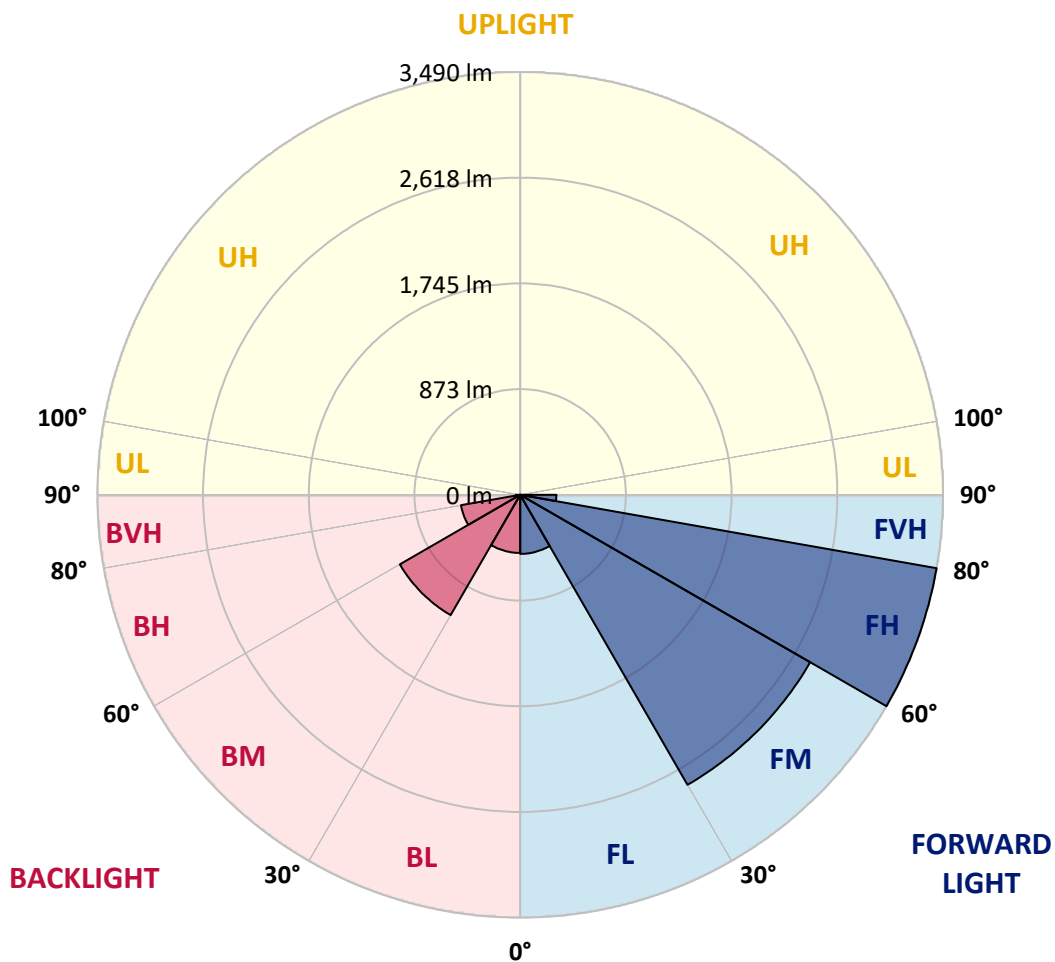
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	487.9	5.3			
FM	(30°-60°)	2763.8	30.1			
FH	(60°-80°)	3490.2	37.9			G2/5000
FVH	(80°-90°)	299.1	3.3			G3/500
BL	(0°-30°)	479.6	5.2	B1/500		
BM	(30°-60°)	1146.5	12.5	B2/2500		
BH	(60°-80°)	495.8	5.4	B1/500		G1/500
BVH	(80°-90°)	34.1	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	1071.3	1071.3	1071.3	1071.3	1071.3	1071.3	1071.3	1071.3	1071.3	1071.3	1071.3
2.5°	1089.9	1088.2	1084.8	1071.3	1069.6	1068.7	1070.4	1065.3	1064.5	1066.2	1064.5
5°	1090.8	1089.1	1084.8	1073.0	1071.3	1069.6	1070.4	1066.2	1067.0	1071.3	1071.3
7.5°	1092.5	1090.8	1086.5	1073.8	1077.2	1075.5	1078.9	1073.0	1073.0	1076.4	1077.2
10°	1088.2	1087.4	1084.8	1075.5	1080.6	1077.2	1080.6	1081.4	1084.8	1087.4	1086.5
12.5°	1077.2	1077.2	1077.2	1073.0	1087.4	1086.5	1092.5	1098.4	1106.9	1111.1	1113.6
15°	1070.4	1069.6	1075.5	1074.7	1092.5	1095.0	1105.2	1120.4	1133.1	1144.2	1147.5
17.5°	1077.2	1077.2	1084.8	1083.1	1100.9	1102.6	1113.6	1135.7	1156.9	1178.1	1187.4
20°	1084.8	1085.7	1095.0	1097.5	1114.5	1113.6	1124.7	1151.8	1180.6	1212.0	1228.1
22.5°	1108.6	1107.7	1115.3	1110.3	1129.8	1133.1	1142.5	1166.2	1206.9	1246.7	1273.0
25°	1126.4	1128.9	1136.5	1133.1	1149.2	1153.5	1168.7	1191.6	1239.9	1287.4	1334.0
27.5°	1143.3	1148.4	1154.3	1153.5	1175.5	1180.6	1192.5	1228.1	1284.0	1340.8	1406.0
30°	1168.7	1167.0	1171.3	1178.9	1207.7	1211.1	1225.5	1268.7	1336.5	1410.3	1497.6
32.5°	1202.6	1200.9	1205.2	1212.0	1246.7	1255.2	1274.7	1321.3	1406.9	1495.9	1602.7
35°	1256.0	1260.3	1263.7	1272.1	1306.0	1317.9	1344.2	1403.5	1502.7	1645.0	1797.6
37.5°	1441.6	1432.3	1413.7	1379.8	1389.1	1402.7	1439.9	1524.7	1668.8	1910.3	2050.2
40°	1731.5	1720.5	1662.0	1562.8	1517.9	1521.3	1557.8	1673.0	1869.6	2222.2	2351.0
42.5°	2004.4	1990.8	1921.3	1797.6	1708.6	1698.4	1701.8	1834.9	2090.0	2534.1	2602.7
45°	2262.0	2268.8	2162.9	2068.0	1966.3	1919.6	1905.2	2004.4	2334.9	2804.5	2825.6
47.5°	2508.7	2513.8	2394.3	2302.7	2204.4	2150.2	2122.2	2199.3	2560.4	3023.1	3003.6
50°	2760.4	2774.0	2610.4	2532.4	2441.7	2402.7	2375.6	2426.5	2809.5	3232.5	3172.3
52.5°	3115.5	3058.7	2844.3	2734.1	2669.7	2657.8	2629.9	2671.4	3074.0	3417.2	3291.8
55°	3510.4	3389.3	3163.8	2971.4	2882.4	2882.4	2857.9	2906.2	3346.9	3555.4	3389.3
57.5°	3638.4	3650.3	3572.3	3363.0	3124.0	3105.3	3081.6	3147.7	3580.8	3679.1	3425.7
60°	3862.2	3895.2	3955.4	3780.8	3663.0	3504.5	3360.4	3396.0	3782.5	3780.8	3464.7
62.5°	3973.2	4004.6	4192.7	4098.6	4209.7	4220.7	3951.2	3676.6	3931.7	3831.7	3483.3
65°	3868.1	3890.1	4141.0	4264.7	4586.8	4740.2	4607.1	4053.7	4010.5	3810.5	3413.8
67.5°	3523.2	3564.7	3772.3	4149.5	4923.3	5008.9	4884.3	4571.6	4044.4	3817.3	3357.9
69°	3160.4	3161.3	3449.4	3972.4	4989.4	5048.7	4896.2	4596.1	4008.8	3801.2	3238.4
70°	2956.2	2977.4	3190.9	3818.9	4964.8	4984.3	4867.3	4595.3	3984.2	3796.1	3124.8
72.5°	2307.0	2295.9	2508.7	3193.5	4686.8	4730.0	4601.2	4465.6	3963.9	3577.4	2643.4
75°	1612.8	1646.7	1855.2	2419.7	4038.5	4168.1	4168.1	4290.2	3648.6	3057.0	1911.2
77.5°	1200.1	1205.2	1372.1	1848.5	3249.4	3384.2	3507.9	3610.5	2851.9	2094.2	854.3
80°	812.8	820.4	973.0	1363.7	2407.8	2531.6	2727.3	2484.1	1696.7	724.6	97.5
82.5°	511.9	522.1	643.3	957.7	1716.2	1772.2	1832.3	1402.7	565.3	83.9	61.9
85°	304.3	306.0	388.2	611.9	1046.7	1050.1	985.7	645.8	151.7	50.0	39.0
87.5°	127.1	133.9	169.5	271.2	306.8	242.4	150.9	51.7	22.9	20.3	13.6
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1071.3	1071.3	1071.3	1071.3	1071.3	1071.3	1071.3	1071.3	1071.3	1071.3	1071.3
2.5°	1059.4	1068.7	1067.0	1069.6	1073.0	1079.7	1087.4	1084.0	1088.2	1097.5	1097.5
5°	1068.7	1076.4	1078.9	1084.0	1088.2	1095.0	1100.1	1098.4	1107.7	1121.3	1121.3
7.5°	1076.4	1082.3	1090.8	1096.7	1100.9	1114.5	1119.6	1116.2	1123.0	1139.1	1139.9
10°	1087.4	1093.3	1106.0	1112.0	1120.4	1127.2	1134.0	1133.1	1139.9	1154.3	1156.9
12.5°	1114.5	1118.7	1136.5	1145.0	1145.0	1153.5	1148.4	1139.9	1143.3	1151.8	1153.5
15°	1150.1	1156.0	1178.9	1183.1	1178.9	1180.6	1168.7	1141.6	1128.1	1130.6	1131.4
17.5°	1190.8	1200.9	1227.2	1221.3	1216.2	1203.5	1173.0	1132.3	1091.6	1076.4	1078.9
20°	1234.0	1246.7	1277.2	1264.5	1245.9	1212.8	1163.7	1094.2	1031.4	995.0	993.3
22.5°	1284.0	1300.1	1328.9	1306.9	1265.4	1207.7	1132.3	1047.5	967.9	911.1	907.7
25°	1352.7	1370.4	1380.6	1336.5	1268.7	1189.1	1087.4	984.0	884.0	816.2	811.1
27.5°	1430.6	1439.9	1419.6	1353.5	1252.6	1149.2	1031.4	903.5	793.3	737.3	729.7
30°	1517.1	1509.4	1445.9	1345.0	1211.1	1086.5	944.1	800.9	712.8	667.8	661.1
32.5°	1617.1	1593.3	1466.2	1321.3	1156.0	1004.3	849.2	735.7	665.3	620.4	617.0
35°	1781.5	1713.7	1499.3	1284.8	1083.1	907.7	761.9	679.7	624.6	568.7	560.2
37.5°	2019.7	1891.7	1547.6	1250.9	1004.3	814.5	695.8	634.8	586.5	523.8	511.9
40°	2267.1	2101.0	1627.2	1213.7	930.6	745.8	659.4	616.2	568.7	509.4	493.3
42.5°	2493.4	2300.2	1720.5	1167.0	853.5	690.7	641.6	611.1	563.6	507.7	495.0
45°	2698.5	2487.5	1816.2	1113.6	768.7	646.7	627.2	601.7	553.4	500.0	489.9
47.5°	2871.4	2646.8	1912.9	1051.8	687.3	619.5	611.9	584.8	539.9	488.2	479.7
50°	3014.6	2761.2	1968.0	986.5	620.4	599.2	589.9	556.0	510.2	461.9	456.8
52.5°	3120.6	2832.4	2018.0	951.8	567.8	566.1	560.2	527.2	483.1	433.1	422.9
55°	3194.3	2890.9	1995.9	924.7	511.9	524.6	521.2	500.9	463.6	405.1	396.6
57.5°	3198.6	2896.0	1948.5	763.6	456.8	474.6	480.5	483.9	442.4	390.7	380.5
60°	3194.3	2858.7	1860.3	560.2	403.4	424.6	446.6	446.6	417.8	367.0	359.4
62.5°	3174.8	2785.0	1655.2	399.2	361.0	389.0	417.8	405.1	380.5	339.9	332.2
65°	3085.8	2662.1	1295.0	325.4	343.2	368.7	382.2	364.4	333.1	290.7	287.3
67.5°	2924.0	2380.7	749.2	298.3	328.0	350.9	361.9	334.8	305.1	264.4	262.7
69°	2746.0	2095.9	422.1	291.5	318.7	339.0	348.3	318.7	289.9	250.9	243.2
70°	2586.6	1841.7	274.6	285.6	309.3	331.4	338.2	307.7	280.5	240.7	235.6
72.5°	1959.5	1109.4	184.8	261.0	283.9	300.9	311.0	282.2	251.7	211.9	201.7
75°	1070.4	301.7	162.7	223.7	252.6	275.4	278.0	241.5	197.5	156.8	152.6
77.5°	208.5	103.4	139.8	184.8	200.9	228.0	226.3	201.7	171.2	133.1	128.0
80°	78.8	74.6	117.0	132.2	141.5	170.4	180.5	162.7	142.4	90.7	78.0
82.5°	53.4	55.1	87.3	78.0	86.4	100.9	127.1	123.7	112.7	61.9	55.1
85°	37.3	43.2	48.3	33.1	42.4	63.6	83.9	81.4	69.5	43.2	39.0
87.5°	11.0	11.9	13.6	17.0	26.3	47.5	68.6	56.8	38.1	32.2	28.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)