

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: P197126

Luminaire Tested: **NAV-AF-02-D-UNV-SL4-8030-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197126  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-02-D-UNV-SL4-8030-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV  
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8097 lumens  
Efficiency: N/A  
Efficacy: 71.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G2

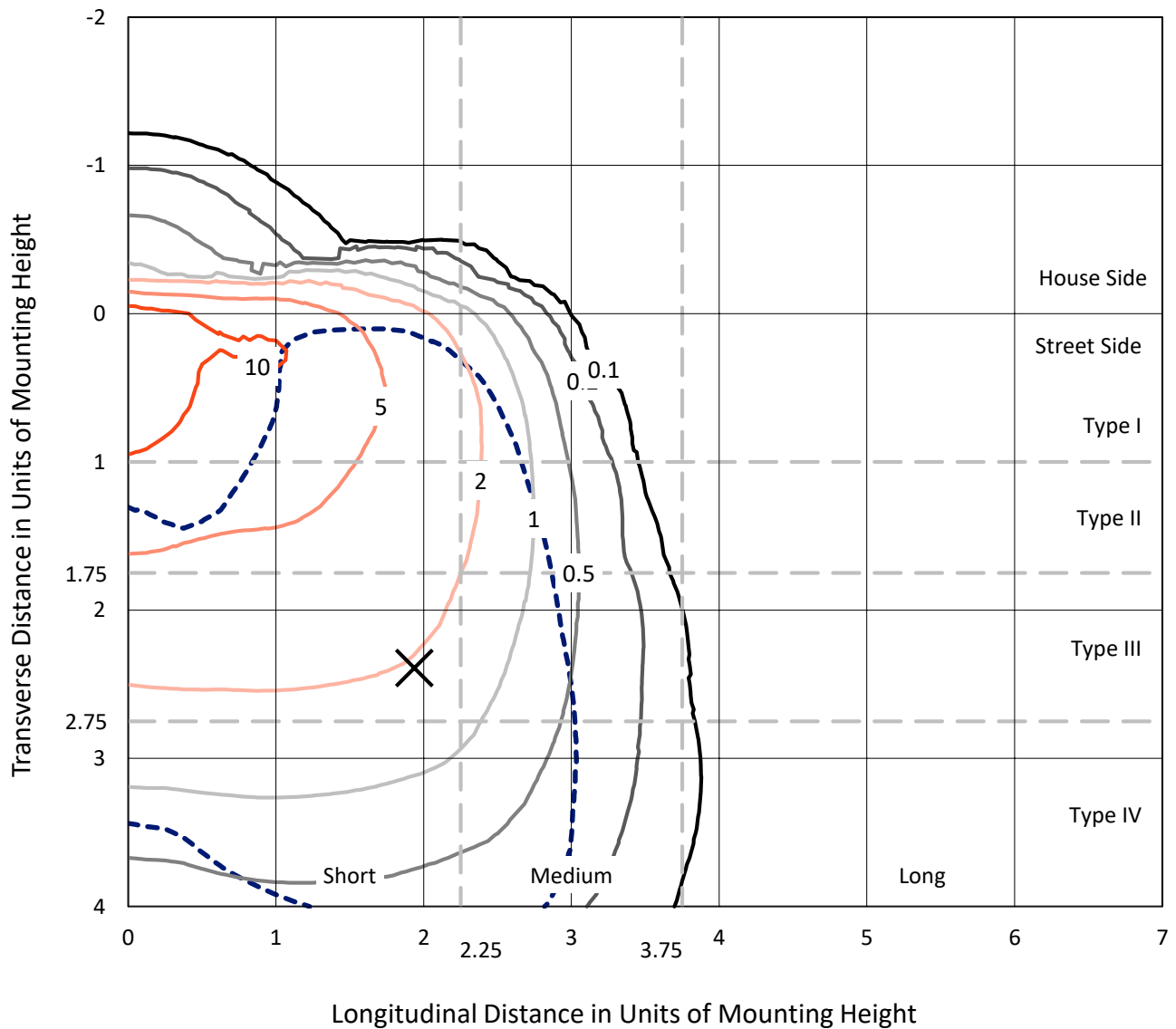
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

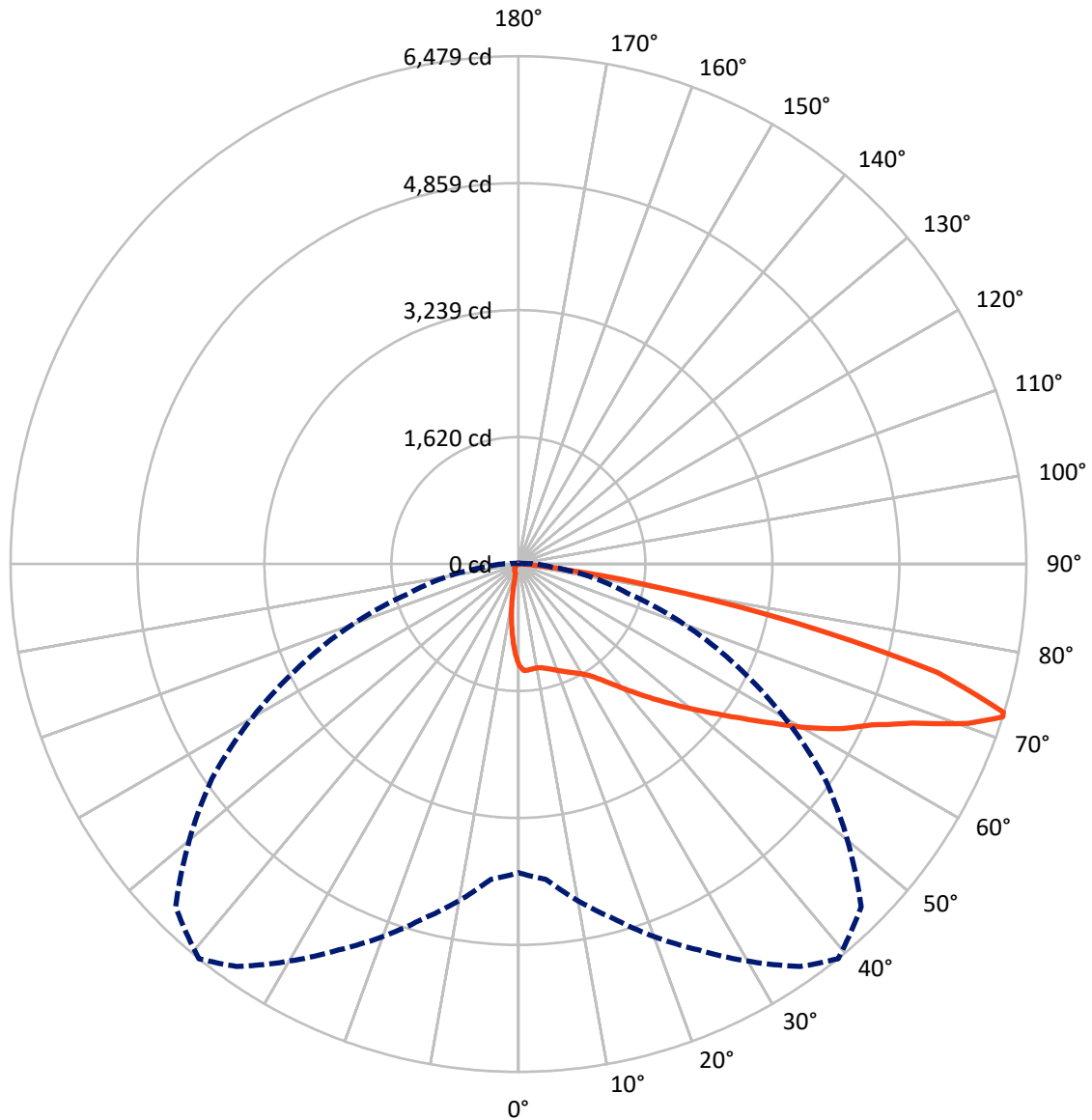


Based on 10 foot mounting height. Maximum calculated value = 13.6 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral    - - - Horizontal Cone Through 72-Deg Vertical

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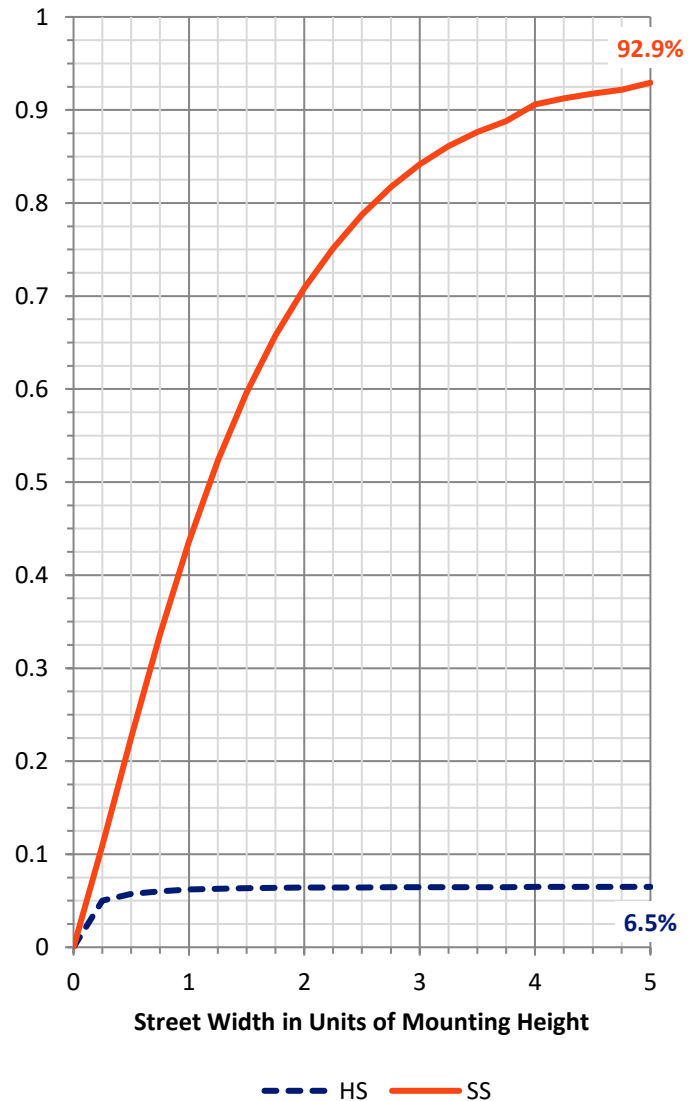
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	530.7	0.0	530.7
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	7566.3	0.0	7566.3
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	8097.0	0.0	8097.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.4	1.3
10°-20°	255.2	3.2
20°-30°	423.8	5.2
30°-40°	675.5	8.3
40°-50°	1115.0	13.8
50°-60°	1683.9	20.8
60°-70°	2193.6	27.1
70°-80°	1482.2	18.3
80°-90°	162.3	2.0
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°	8097.0	100.0
0°-180°	8097.0	100.0



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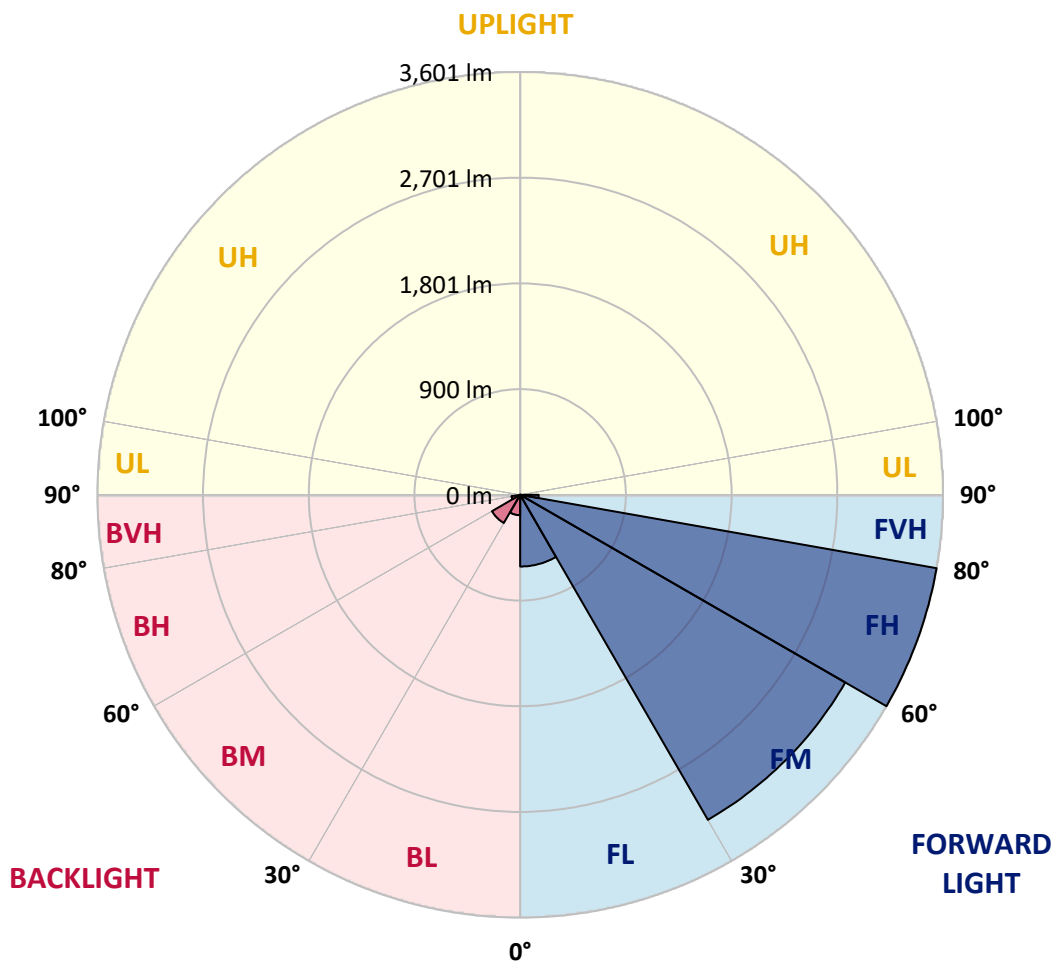
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	610.7	7.5			
FM	(30°-60°)	3196.8	39.5			
FH	(60°-80°)	3601.2	44.5			G2/5000
FVH	(80°-90°)	157.7	1.9			G2/225
BL	(0°-30°)	173.8	2.1	B1/500		
BM	(30°-60°)	277.6	3.4	B1/1000		
BH	(60°-80°)	74.6	0.9	B0/110		G0/110
BVH	(80°-90°)	4.7	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	1296.0	1296.0	1296.0	1296.0	1296.0	1296.0	1296.0	1296.0	1296.0	1296.0	1296.0
2.5°	1380.0	1382.5	1379.4	1373.6	1365.4	1360.3	1353.3	1338.0	1318.9	1302.3	1283.2
5°	1390.8	1392.1	1388.3	1377.5	1364.7	1357.7	1348.8	1332.3	1312.5	1289.6	1255.2
7.5°	1394.0	1393.4	1388.9	1375.5	1355.8	1346.9	1331.6	1311.3	1290.9	1269.9	1231.1
10°	1392.7	1392.7	1389.5	1376.8	1354.5	1346.3	1329.1	1307.4	1282.0	1261.0	1219.6
12.5°	1388.3	1390.8	1388.9	1381.9	1365.4	1359.0	1343.7	1322.1	1297.9	1276.2	1232.3
15°	1394.0	1397.8	1401.6	1399.1	1389.5	1383.8	1369.8	1347.5	1327.8	1304.9	1257.8
17.5°	1416.9	1425.2	1434.1	1434.7	1424.6	1414.4	1398.5	1375.5	1356.4	1335.4	1284.5
20°	1460.2	1466.6	1483.1	1486.3	1465.9	1451.3	1429.0	1402.3	1383.2	1365.4	1309.3
22.5°	1524.5	1531.5	1544.9	1540.4	1506.0	1488.8	1460.8	1430.3	1410.6	1400.4	1338.0
25°	1621.9	1623.8	1627.0	1607.2	1550.6	1531.5	1497.1	1462.7	1446.8	1445.6	1378.7
27.5°	1736.5	1739.0	1725.0	1681.1	1600.2	1575.4	1536.6	1505.4	1497.8	1507.3	1430.3
30°	1867.6	1868.2	1829.4	1758.1	1657.5	1630.2	1590.1	1555.7	1562.7	1586.2	1496.5
32.5°	2001.9	1995.5	1942.1	1849.1	1735.8	1702.7	1668.3	1634.0	1654.3	1702.1	1593.2
35°	2124.7	2122.2	2059.2	1951.0	1837.7	1808.4	1783.6	1747.3	1780.4	1858.0	1725.0
37.5°	2247.6	2245.7	2173.8	2061.1	1963.1	1942.1	1923.6	1895.6	1949.7	2063.6	1901.3
40°	2383.2	2380.0	2291.5	2183.3	2108.8	2097.4	2086.5	2074.5	2166.8	2325.2	2120.9
42.5°	2550.6	2536.6	2416.3	2316.3	2269.2	2272.4	2273.1	2285.1	2429.6	2636.5	2380.0
45°	2742.8	2711.6	2541.7	2458.9	2445.6	2464.6	2483.7	2534.0	2735.8	2994.9	2666.4
47.5°	2929.3	2879.0	2686.2	2612.3	2639.7	2679.2	2725.0	2823.0	3079.5	3369.8	2926.1
50°	3089.7	3038.2	2829.4	2768.3	2855.5	2914.0	2995.5	3143.8	3442.4	3686.8	3089.7
52.5°	3215.8	3175.0	2980.9	2940.1	3094.8	3175.0	3303.0	3497.7	3784.8	3895.6	3204.3
55°	3308.7	3288.3	3126.0	3131.7	3360.9	3476.7	3635.9	3856.1	4073.8	4057.9	3290.2
57.5°	3413.7	3397.8	3278.1	3357.7	3681.1	3830.6	4014.6	4191.6	4283.9	4188.4	3374.3
60°	3521.3	3526.4	3462.7	3631.4	4077.0	4242.5	4402.9	4446.8	4464.0	4320.8	3462.7
62.5°	3602.8	3624.4	3630.1	3926.8	4483.1	4624.4	4693.8	4662.6	4658.8	4498.4	3455.7
65°	3696.3	3753.0	3847.2	4250.8	4852.3	4945.2	4994.9	5040.1	4944.6	4551.2	3115.8
67.5°	3858.0	3947.1	4159.1	4647.9	5278.8	5416.2	5556.9	5509.2	4987.2	4014.6	2373.6
70°	4075.7	4184.6	4558.8	5166.7	5857.4	6087.8	6205.5	5471.6	4234.2	2774.0	1252.1
72°	3938.2	4036.9	4682.3	5431.5	6267.3	6478.6	6183.9	4772.7	3069.4	1437.9	419.5
72.5°	3804.5	3906.4	4642.9	5428.3	6308.0	6469.7	6043.2	4497.1	2716.1	1119.0	289.0
75°	2639.7	2768.3	3980.2	4879.6	5696.3	5518.7	4623.8	2723.1	984.1	192.2	95.5
77.5°	1364.7	1464.0	2414.4	3448.1	3970.0	3635.9	2732.6	1181.4	272.4	101.8	63.0
80°	845.9	895.0	1129.2	1698.9	2062.4	1803.9	1205.6	477.4	174.4	60.5	50.3
82.5°	437.9	475.5	711.0	685.5	761.9	633.3	444.9	399.7	107.6	37.6	51.6
85°	143.9	152.8	436.7	455.8	325.9	219.0	197.3	381.3	31.2	24.2	43.9
87.5°	19.1	22.3	153.4	261.0	160.4	99.3	118.4	134.3	10.8	13.4	12.1
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°	1296.0	1296.0	1296.0	1296.0	1296.0	1296.0	1296.0	1296.0	1296.0	1296.0	1296.0
2.5°	1270.5	1262.2	1236.1	1210.0	1180.1	1152.8	1131.1	1117.1	1123.5	1102.5	1105.7
5°	1234.2	1213.2	1155.9	1094.2	1027.4	965.0	915.3	878.4	871.4	839.6	840.9
7.5°	1199.2	1164.9	1071.9	970.1	859.3	769.6	688.1	616.8	591.3	565.2	550.0
10°	1180.1	1133.0	1001.3	853.0	697.0	565.2	450.7	360.9	323.4	296.0	282.6
12.5°	1185.9	1123.5	948.4	746.7	541.7	374.3	254.6	189.0	166.1	153.4	148.9
15°	1205.0	1125.4	900.7	642.9	394.0	226.6	149.6	127.9	126.0	125.4	124.8
17.5°	1222.8	1127.3	850.4	534.7	263.5	144.5	120.3	118.4	118.4	118.4	118.4
20°	1241.2	1127.9	795.0	421.4	173.1	118.4	113.3	112.0	113.3	113.3	113.3
22.5°	1262.9	1132.4	741.6	311.3	127.9	111.4	108.2	107.6	108.2	108.2	107.6
25°	1289.6	1141.9	683.6	222.8	115.8	106.9	103.8	103.1	103.8	103.1	103.1
27.5°	1325.3	1154.7	616.2	159.8	110.8	102.5	99.3	99.3	99.3	98.7	98.7
30°	1371.1	1169.9	525.8	126.0	105.7	98.0	95.5	95.5	94.8	94.2	94.2
32.5°	1436.7	1194.8	427.1	113.9	99.9	92.3	89.8	90.4	89.8	89.1	88.5
35°	1529.6	1233.6	329.7	107.6	94.2	86.6	84.0	84.0	84.0	82.7	82.7
37.5°	1661.3	1292.8	247.0	101.2	88.5	80.8	77.7	77.7	77.0	75.7	76.4
40°	1824.3	1367.3	178.9	95.5	82.7	74.5	71.9	70.7	69.4	68.1	68.1
42.5°	2020.3	1439.8	134.3	89.8	77.0	69.4	66.2	64.9	62.4	61.1	60.5
45°	2240.0	1516.9	111.4	82.7	70.7	63.7	61.1	58.6	55.4	53.5	52.8
47.5°	2425.2	1564.0	99.3	75.7	64.3	57.9	55.4	51.6	47.7	46.5	46.5
50°	2536.6	1544.2	89.1	68.7	57.9	52.2	49.0	43.9	41.4	40.1	39.5
52.5°	2599.0	1485.7	80.8	63.0	52.2	45.8	41.4	36.9	35.6	34.4	34.4
55°	2641.6	1401.0	71.9	57.3	47.1	40.1	35.0	31.8	30.6	29.9	29.3
57.5°	2682.3	1297.9	63.7	52.2	42.0	35.6	29.9	28.6	26.1	25.5	25.5
60°	2694.4	1155.9	56.0	46.5	37.6	31.2	26.1	24.2	21.6	21.0	21.0
62.5°	2540.4	919.8	49.6	39.5	33.1	26.7	22.9	20.4	17.8	17.8	17.8
65°	2122.8	624.4	42.6	34.4	29.3	22.9	19.7	16.5	15.3	15.3	15.3
67.5°	1478.7	348.2	36.3	29.3	24.8	19.1	16.5	14.0	13.4	14.0	14.0
70°	666.4	138.1	30.6	24.2	20.4	15.9	14.0	12.1	13.4	13.4	13.4
72°	199.9	73.8	25.5	19.7	16.5	14.0	12.1	11.5	12.7	13.4	13.4
72.5°	148.3	66.2	24.2	19.1	16.5	13.4	11.5	11.5	12.7	13.4	13.4
75°	76.4	45.2	18.5	14.0	12.1	10.8	9.5	10.8	12.7	12.7	12.7
77.5°	59.8	36.9	15.3	10.8	10.2	9.5	8.9	10.2	11.5	11.5	11.5
80°	56.0	24.2	12.1	10.2	8.9	8.3	8.3	8.9	10.2	10.8	10.8
82.5°	56.7	19.7	10.8	9.5	8.3	7.6	7.6	8.3	9.5	10.2	10.2
85°	36.3	13.4	9.5	8.3	7.6	7.0	7.0	7.6	8.9	9.5	9.5
87.5°	12.1	10.2	8.3	7.6	6.4	6.4	6.4	6.4	7.6	8.3	8.9
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)