

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: P270443

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-7027-600-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270443  
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-03-D-UNV-SL4-7027-600-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 2700K, 615mA 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: 8446.7 lumens  
Efficiency: N/A  
Efficacy: 88.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G2

Input Watts (W): 96  
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

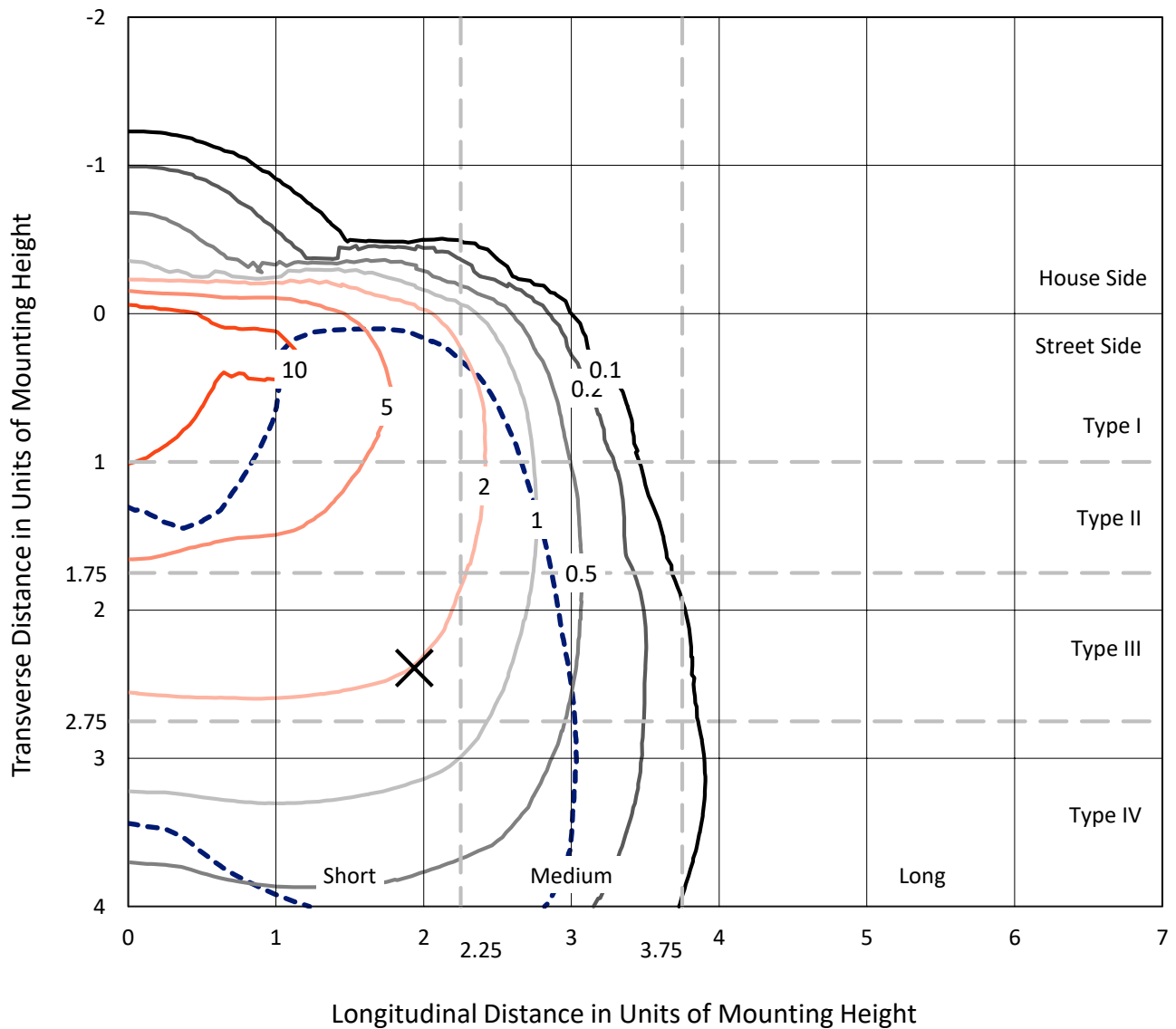


REPORT NUMBER: P270443

CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-7027-600-HSS

### Iso-Footcandle Lines of Horizontal Illumination

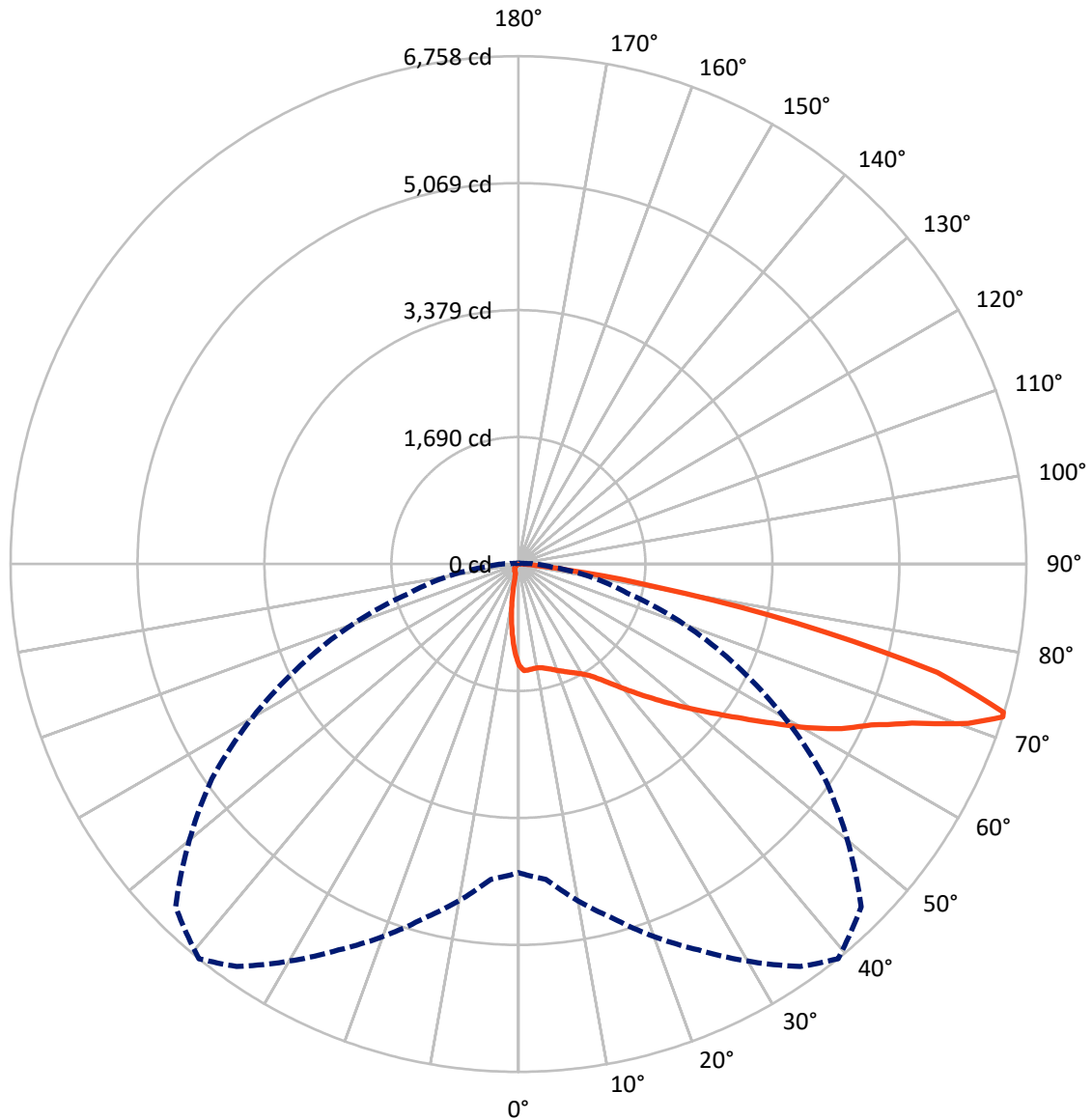
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.2 fc  
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P270443  
CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-7027-600-HSS

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P270443

CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-7027-600-HSS

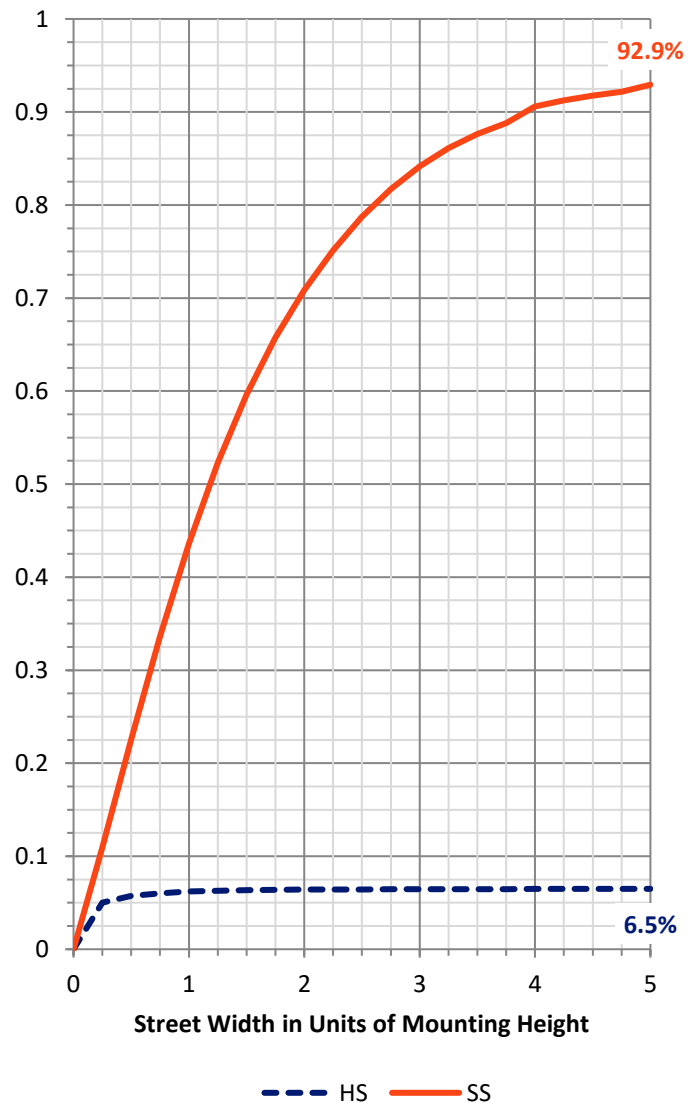
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	553.6	0.0	553.6
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	7893.1	0.0	7893.1
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	8446.7	0.0	8446.7
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.0	1.3
10°-20°	266.2	3.2
20°-30°	442.1	5.2
30°-40°	704.7	8.3
40°-50°	1163.2	13.8
50°-60°	1756.6	20.8
60°-70°	2288.3	27.1
70°-80°	1546.2	18.3
80°-90°	169.3	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°	8446.7	100.0
0°-180°	8446.7	100.0



REPORT NUMBER: P270443

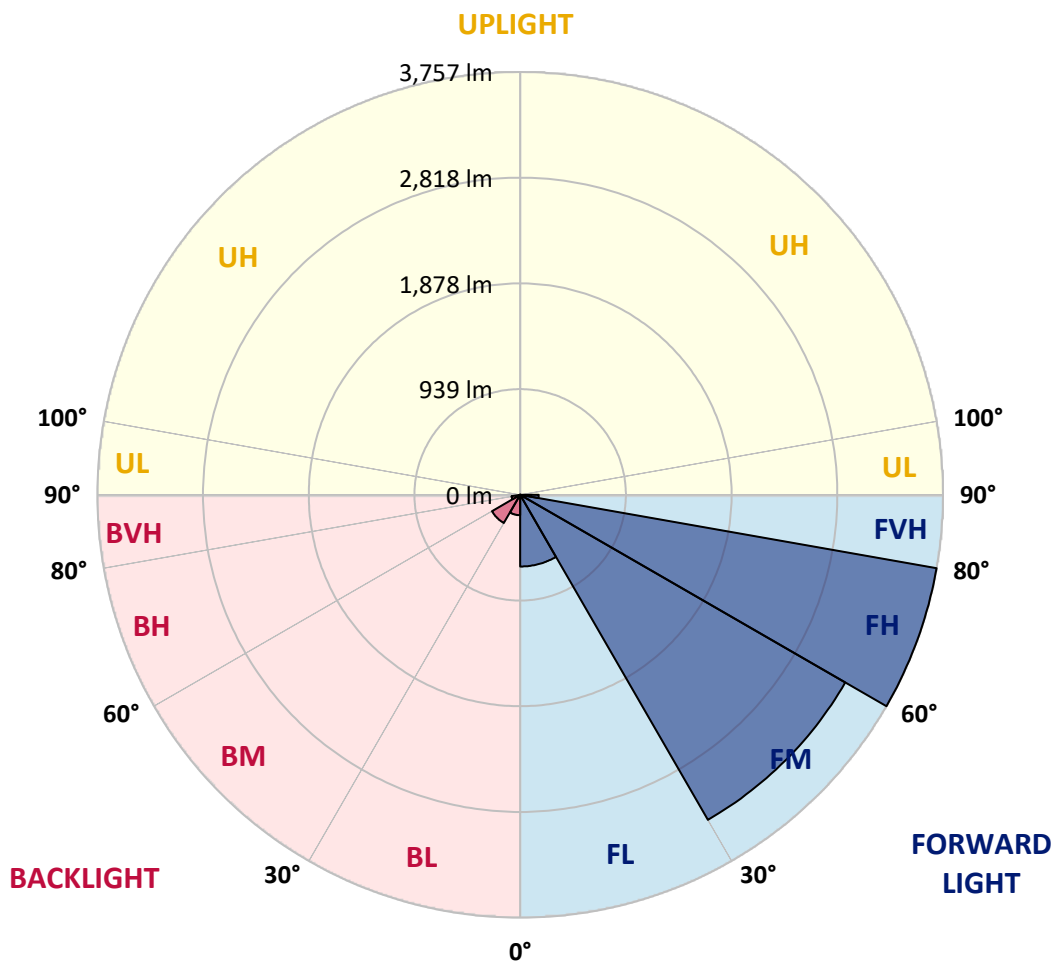
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	637.1	7.5			
FM	(30°-60°)	3334.8	39.5			
FH	(60°-80°)	3756.7	44.5			G2/5000
FVH	(80°-90°)	164.5	1.9			G2/225
BL	(0°-30°)	181.3	2.1	B1/500		
BM	(30°-60°)	289.7	3.4	B1/1000		
BH	(60°-80°)	77.8	0.9	B0/110		G0/110
BVH	(80°-90°)	4.9	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





REPORT NUMBER: P270443

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9
2.5°	1439.5	1442.3	1438.9	1432.9	1424.4	1419.1	1411.6	1395.7	1375.8	1358.5	1338.7
5°	1450.9	1452.2	1448.2	1436.8	1423.6	1416.4	1407.0	1389.8	1369.1	1345.3	1309.4
7.5°	1454.1	1453.5	1448.8	1435.0	1414.3	1405.0	1389.0	1367.8	1346.6	1324.7	1284.1
10°	1452.9	1452.9	1449.5	1436.3	1413.0	1404.4	1386.4	1363.8	1337.3	1315.4	1272.3
12.5°	1448.2	1450.9	1448.8	1441.6	1424.4	1417.6	1401.7	1379.2	1353.9	1331.4	1285.6
15°	1454.1	1458.2	1462.3	1459.4	1449.5	1443.5	1428.9	1405.7	1385.1	1361.2	1312.2
17.5°	1478.2	1486.8	1496.0	1496.7	1486.1	1475.5	1458.8	1435.0	1415.0	1393.1	1340.0
20°	1523.3	1530.0	1547.2	1550.5	1529.3	1514.0	1490.6	1462.8	1442.9	1424.4	1366.0
22.5°	1590.3	1597.6	1611.6	1606.9	1571.0	1553.1	1524.0	1492.1	1471.5	1460.9	1395.7
25°	1691.9	1693.9	1697.2	1676.6	1617.6	1597.6	1561.8	1526.0	1509.3	1508.0	1438.2
27.5°	1811.4	1814.0	1799.5	1753.8	1669.3	1643.4	1602.9	1570.3	1562.4	1572.5	1492.1
30°	1948.2	1949.0	1908.4	1834.0	1729.1	1700.5	1658.7	1622.9	1630.2	1654.8	1561.2
32.5°	2088.3	2081.7	2025.9	1929.0	1810.8	1776.3	1740.3	1704.5	1725.7	1775.6	1662.0
35°	2216.5	2213.9	2148.0	2035.2	1917.1	1886.5	1860.6	1822.8	1857.2	1938.3	1799.5
37.5°	2344.7	2342.7	2267.6	2150.2	2047.9	2025.9	2006.6	1977.4	2033.9	2152.8	1983.4
40°	2486.1	2482.7	2390.5	2277.6	2199.9	2187.9	2176.7	2164.0	2260.3	2425.7	2212.4
42.5°	2660.7	2646.0	2520.6	2416.4	2367.3	2370.5	2371.2	2383.8	2534.6	2750.4	2482.7
45°	2861.2	2828.8	2651.3	2565.1	2551.1	2571.0	2591.0	2643.4	2853.9	3124.1	2781.5
47.5°	3055.9	3003.4	2802.2	2725.1	2753.7	2794.8	2842.6	2945.0	3212.5	3515.2	3052.5
50°	3223.2	3169.4	2951.6	2887.8	2978.8	3039.9	3124.8	3279.6	3591.1	3846.0	3223.2
52.5°	3354.6	3312.1	3109.7	3067.2	3228.5	3312.1	3445.5	3648.7	3948.2	4063.8	3342.7
55°	3451.6	3430.3	3260.9	3267.0	3506.1	3626.8	3792.9	4022.6	4249.7	4233.2	3432.3
57.5°	3561.2	3544.5	3419.7	3502.8	3840.1	3996.0	4188.0	4372.5	4468.8	4369.3	3520.0
60°	3673.3	3678.6	3612.3	3788.2	4253.0	4425.7	4593.0	4638.8	4656.8	4507.3	3612.3
62.5°	3758.2	3780.8	3786.9	4096.4	4676.7	4824.1	4896.4	4864.0	4859.9	4692.6	3605.0
65°	3856.0	3915.1	4013.3	4434.4	5061.8	5158.7	5210.4	5257.7	5158.1	4747.7	3250.3
67.5°	4024.5	4117.7	4338.6	4848.6	5506.7	5650.1	5796.9	5747.0	5202.5	4188.0	2476.1
70°	4251.7	4365.3	4755.6	5389.8	6110.4	6350.7	6473.5	5707.9	4417.1	2893.8	1306.1
72°	4108.3	4211.2	4884.5	5666.1	6538.0	6758.4	6450.9	4978.8	3201.9	1500.0	437.6
72.5°	3968.8	4075.2	4843.3	5662.7	6580.4	6749.1	6304.1	4691.3	2833.3	1167.3	301.6
75°	2753.7	2887.8	4152.1	5090.3	5942.3	5757.0	4823.4	2840.7	1026.6	200.5	99.6
77.5°	1423.6	1527.3	2518.6	3597.0	4141.5	3792.9	2850.6	1232.5	284.3	106.2	65.8
80°	882.5	933.6	1177.9	1772.3	2151.4	1881.8	1257.6	498.0	181.9	63.2	52.5
82.5°	456.9	496.0	741.7	715.1	794.8	660.8	464.2	417.1	112.2	39.2	53.8
85°	150.0	159.4	455.5	475.5	340.0	228.3	205.8	397.8	32.6	25.2	45.9
87.5°	19.9	23.3	160.0	272.2	167.4	103.6	123.4	140.1	11.3	14.0	12.7
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°	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9
2.5°	1325.4	1316.7	1289.5	1262.3	1231.0	1202.6	1180.0	1165.3	1172.0	1150.1	1153.5
5°	1287.5	1265.6	1205.9	1141.4	1071.7	1006.6	954.9	916.4	909.1	875.8	877.1
7.5°	1251.0	1215.1	1118.2	1012.0	896.4	802.7	717.7	643.5	616.9	589.6	573.7
10°	1231.0	1182.0	1044.5	889.9	727.1	589.6	470.2	376.5	337.4	308.7	294.9
12.5°	1237.1	1172.0	989.5	778.9	565.0	390.5	265.5	197.2	173.4	160.0	155.3
15°	1257.0	1173.9	939.5	670.7	411.1	236.4	156.0	133.5	131.5	130.9	130.2
17.5°	1275.6	1176.1	887.2	557.8	274.9	150.7	125.6	123.4	123.4	123.4	123.4
20°	1294.8	1176.6	829.3	439.6	180.6	123.4	118.1	116.9	118.1	118.1	118.1
22.5°	1317.5	1181.4	773.6	324.6	133.5	116.2	112.8	112.2	112.8	112.8	112.2
25°	1345.3	1191.2	713.2	232.4	120.8	111.6	108.2	107.5	108.2	107.5	107.5
27.5°	1382.5	1204.5	642.7	166.6	115.5	106.9	103.6	103.6	103.6	102.9	102.9
30°	1430.3	1220.4	548.4	131.5	110.2	102.2	99.6	99.6	99.0	98.3	98.3
32.5°	1498.7	1246.4	445.6	118.8	104.3	96.3	93.7	94.3	93.7	93.0	92.3
35°	1595.6	1286.8	344.1	112.2	98.3	90.3	87.7	87.7	87.7	86.3	86.3
37.5°	1733.1	1348.6	257.6	105.6	92.3	84.4	80.9	80.9	80.4	79.1	79.7
40°	1903.1	1426.2	186.6	99.6	86.3	77.8	75.0	73.8	72.4	71.1	71.1
42.5°	2107.7	1502.0	140.1	93.7	80.4	72.4	69.1	67.7	65.0	63.7	63.2
45°	2336.8	1582.4	116.2	86.3	73.8	66.5	63.7	61.1	57.9	55.8	55.2
47.5°	2529.8	1631.5	103.6	79.1	67.1	60.5	57.9	53.8	49.8	48.5	48.5
50°	2646.0	1610.9	93.0	71.8	60.5	54.4	51.2	45.9	43.2	41.9	41.1
52.5°	2711.2	1549.8	84.4	65.8	54.4	47.8	43.2	38.4	37.2	35.8	35.8
55°	2755.7	1461.5	75.0	59.7	49.1	41.9	36.6	33.1	31.9	31.3	30.5
57.5°	2798.2	1353.9	66.5	54.4	43.8	37.2	31.3	29.9	27.2	26.6	26.6
60°	2810.7	1205.9	58.4	48.5	39.2	32.6	27.2	25.2	22.5	21.9	21.9
62.5°	2650.1	959.5	51.8	41.1	34.6	27.8	24.0	21.2	18.5	18.5	18.5
65°	2214.5	651.5	44.5	35.8	30.5	24.0	20.7	17.2	15.9	15.9	15.9
67.5°	1542.5	363.3	37.9	30.5	26.0	19.9	17.2	14.6	14.0	14.6	14.6
70°	695.2	144.1	31.9	25.2	21.2	16.6	14.6	12.7	14.0	14.0	14.0
72°	208.4	77.1	26.6	20.7	17.2	14.6	12.7	11.9	13.2	14.0	14.0
72.5°	154.7	69.1	25.2	19.9	17.2	14.0	11.9	11.9	13.2	14.0	14.0
75°	79.7	47.2	19.3	14.6	12.7	11.3	9.9	11.3	13.2	13.2	13.2
77.5°	62.4	38.4	15.9	11.3	10.6	9.9	9.3	10.6	11.9	11.9	11.9
80°	58.4	25.2	12.7	10.6	9.3	8.7	8.7	9.3	10.6	11.3	11.3
82.5°	59.1	20.7	11.3	9.9	8.7	7.9	7.9	8.7	9.9	10.6	10.6
85°	37.9	14.0	9.9	8.7	7.9	7.2	7.2	7.9	9.3	9.9	9.9
87.5°	12.7	10.6	8.7	7.9	6.6	6.6	6.6	6.6	7.9	8.7	9.3
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)