

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: P196230

Luminaire Tested: **NAV-AF-06-D-UNV-SLR-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196230  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-06-D-UNV-SLR-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(6) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT  
ELIMINATOR RIGHT OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 21443.1 lumens  
Efficiency: N/A  
Efficacy: 111.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B3 - U0 - G4

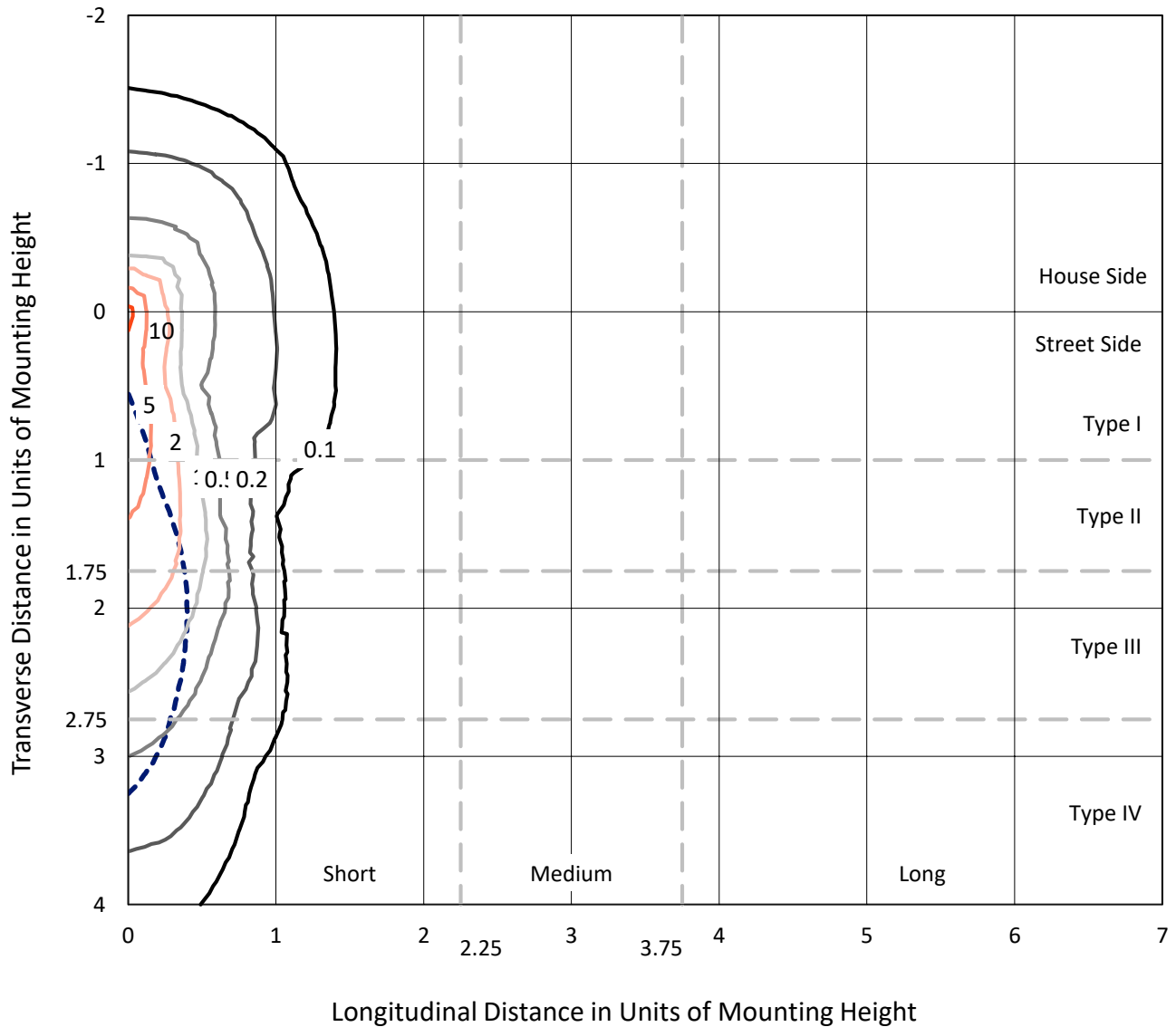
Input Watts (W): 193  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

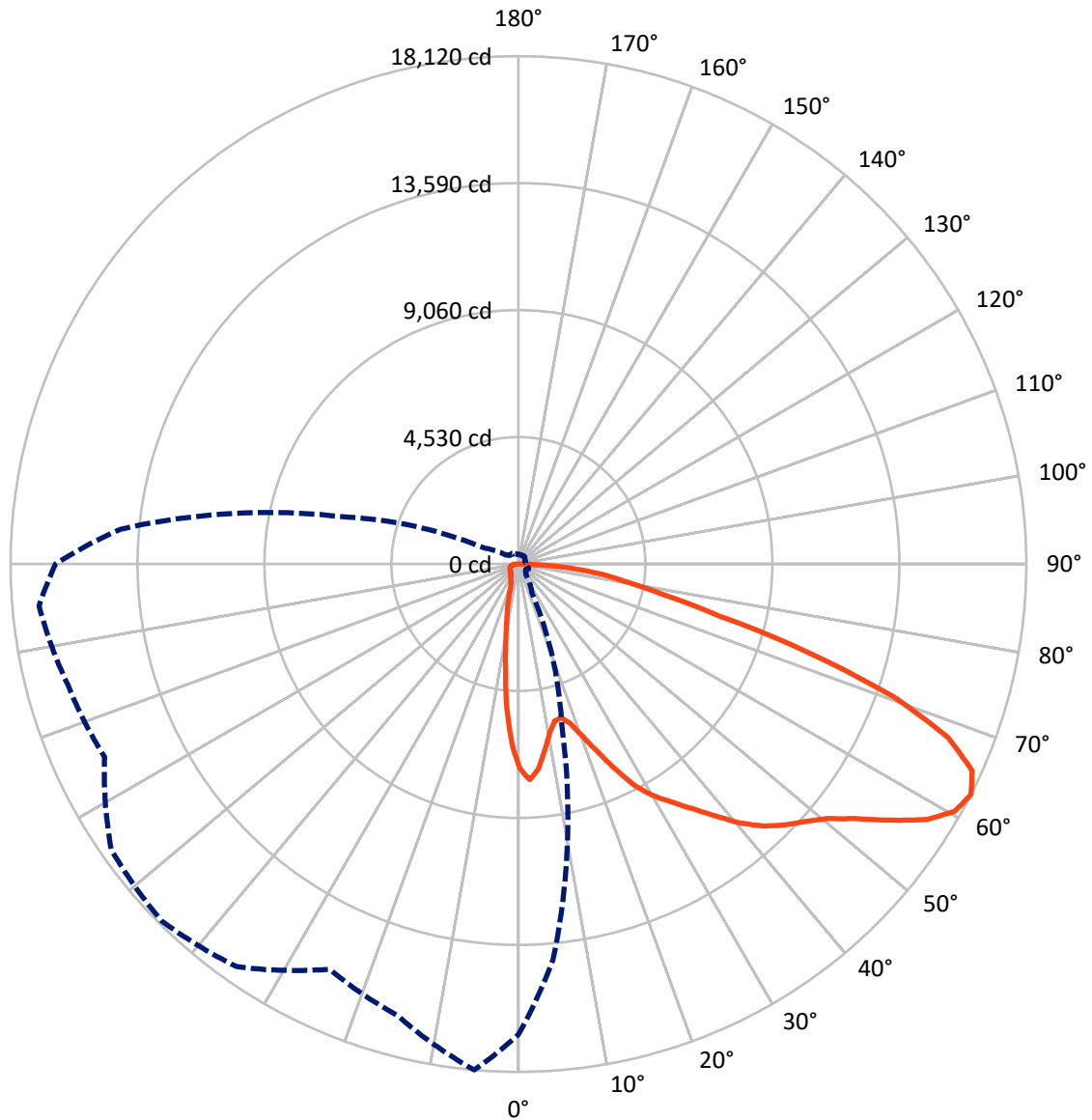
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.7 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral    - - - Horizontal Cone Through 62.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3798.7	0.0	3798.7
	% Fixture	17.7	0.0	17.7
<b>Street Side</b>	Lumens	17644.4	0.0	17644.4
	% Fixture	82.3	0.0	82.3
<b>Total</b>	Lumens	21443.1	0.0	21443.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	531.6	2.5
10°-20°	971.0	4.5
20°-30°	1396.6	6.5
30°-40°	2139.1	10.0
40°-50°	3127.4	14.6
50°-60°	4550.4	21.2
60°-70°	5272.2	24.6
70°-80°	2748.3	12.8
80°-90°	706.5	3.3
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°	21443.1	100.0
0°-180°	21443.1	100.0



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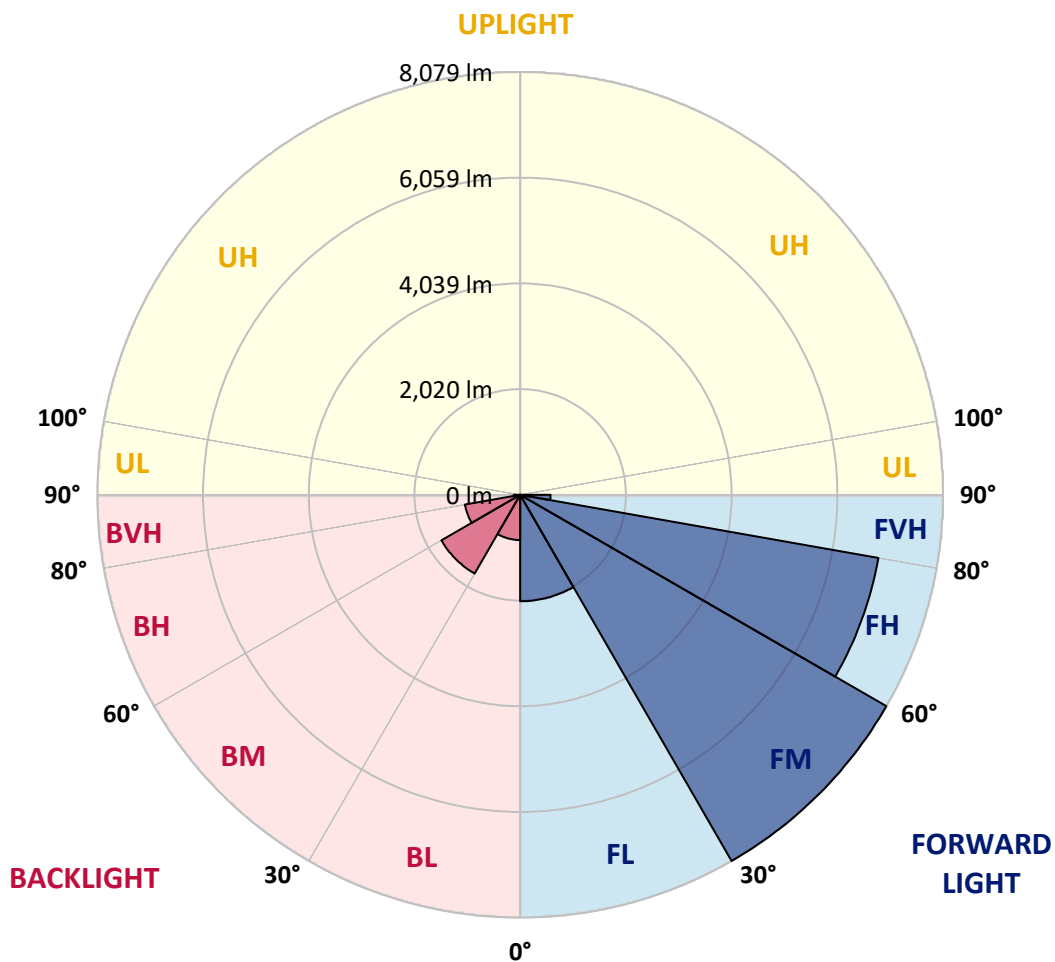
CATALOG NUMBER: NAV-AF-06-D-UNV-SLR-600

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2035.0	9.5			
FM	(30°-60°)	8078.8	37.7			
FH	(60°-80°)	6949.4	32.4			G3/7500
FVH	(80°-90°)	581.2	2.7			G4/750
BL	(0°-30°)	864.3	4.0	B2/1000		
BM	(30°-60°)	1738.0	8.1	B2/2500		
BH	(60°-80°)	1071.1	5.0	B3/2500		G3/2500
BVH	(80°-90°)	125.3	0.6			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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4
2.5°	7546.7	7440.9	7196.9	6982.4	6715.0	6514.4	6270.3	6141.2	6046.4	5982.6	5931.4
5°	7049.2	6794.2	6327.8	5918.9	5477.4	5158.6	4785.5	4581.8	4455.9	4387.4	4356.3
7.5°	6310.7	5973.3	5370.1	4821.3	4269.3	3871.3	3588.3	3286.7	3126.5	3022.4	2988.2
10°	5665.5	5284.6	4564.7	3947.5	3521.5	3238.6	2996.0	2719.2	2514.0	2335.2	2268.4
12.5°	5290.8	4847.7	4026.7	3468.6	3111.0	2807.9	2551.3	2252.8	2036.7	1850.1	1778.6
15°	5211.5	4717.0	3801.3	3163.9	2725.4	2360.0	2052.2	1727.4	1515.9	1362.0	1312.2
17.5°	5450.9	4841.4	3706.5	2885.6	2357.0	1910.8	1531.5	1183.1	1007.5	923.5	903.3
20°	5943.8	5115.1	3661.4	2635.3	1999.4	1470.8	1058.8	803.8	716.8	691.8	690.3
22.5°	6592.1	5559.7	3711.2	2430.0	1663.5	1085.2	775.8	660.7	625.0	611.0	611.0
25°	7324.3	6161.4	3843.3	2273.0	1368.2	844.2	668.5	606.3	576.8	562.8	564.4
27.5°	8219.9	6893.7	4023.7	2128.5	1156.8	740.1	625.0	572.1	542.6	528.7	530.2
30°	8894.7	7523.4	4179.2	1996.3	1047.9	698.1	601.7	551.9	519.2	499.1	497.6
32.5°	9525.9	8078.4	4305.1	1901.5	985.7	623.5	544.1	506.9	478.8	455.5	450.9
35°	10224.0	8600.8	4364.1	1898.3	945.3	562.8	497.6	452.5	424.4	398.0	393.3
37.5°	11015.3	9239.8	4413.9	1917.0	923.5	524.0	475.8	432.2	408.9	382.5	376.2
40°	11839.3	9864.8	4452.8	1932.6	920.5	497.6	458.7	419.8	396.5	368.5	362.2
42.5°	12546.7	10418.3	4505.6	1926.3	898.7	492.9	447.7	408.9	387.1	359.2	351.4
45°	13112.7	10858.3	4588.0	1924.8	866.0	503.7	444.7	405.8	379.3	349.8	343.6
47.5°	13639.7	11354.2	4762.1	1918.5	830.2	500.6	461.8	402.6	376.2	346.7	342.1
50°	14243.0	12021.2	5059.1	1871.9	780.5	478.8	492.9	399.6	368.5	342.1	337.4
52.5°	15082.5	12997.6	5499.1	1787.9	712.1	455.5	497.6	398.0	356.0	332.7	326.5
55°	16069.7	14044.0	5973.3	1666.7	621.9	415.1	472.6	391.8	343.6	318.8	309.4
57.5°	16833.2	14816.6	6304.4	1492.6	533.3	391.8	421.4	377.8	328.1	303.2	295.4
60°	17047.7	14850.9	6363.6	1284.2	488.2	376.2	362.2	412.0	315.6	289.2	281.4
62.5°	16791.1	14171.4	5977.9	1138.0	472.6	360.7	329.6	393.3	303.2	276.7	268.9
65°	16030.9	13024.0	5115.1	1116.3	488.2	346.7	312.5	314.0	290.7	264.3	256.6
67.5°	14255.4	11335.6	4029.9	1130.3	506.9	332.7	300.0	286.1	276.7	253.4	244.1
70°	11593.7	9126.4	3174.7	1155.2	524.0	314.0	284.5	267.4	259.6	234.8	230.1
72.5°	8930.5	7304.2	2504.7	1138.0	541.0	295.4	262.8	248.8	239.5	216.1	211.4
75°	6341.8	5803.8	1840.8	976.4	495.9	268.9	237.8	225.5	217.7	192.8	191.2
77.5°	4571.0	4347.0	1281.1	733.9	391.8	236.3	209.9	199.0	194.4	166.3	166.3
80°	3645.9	3308.5	766.5	478.8	286.1	195.9	175.6	171.0	166.3	138.4	139.9
82.5°	2619.8	2294.8	489.8	298.5	209.9	149.2	136.8	135.2	127.5	102.6	102.6
85°	1343.3	1172.3	314.0	200.6	147.7	96.4	90.2	87.1	82.4	63.7	63.7
87.5°	261.2	359.2	174.1	98.0	71.5	34.2	34.2	29.6	34.2	23.3	24.9
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):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4
2.5°	6029.3	5998.2	5976.4	5965.5	6122.6	6187.8	6262.5	6369.8	6442.9	6411.8	6511.3
5°	4502.5	4524.3	4574.0	4651.8	4871.0	4975.1	5042.0	5130.6	5194.3	5130.6	5236.4
7.5°	3078.4	3111.0	3216.8	3376.9	3641.2	3757.8	3781.1	3782.7	3768.7	3664.5	3736.0
10°	2266.9	2201.5	2224.8	2339.9	2576.2	2680.3	2691.3	2663.3	2658.6	2616.6	2697.5
12.5°	1756.8	1666.7	1613.8	1632.4	1809.7	1895.2	1909.2	1924.8	1988.5	2008.8	2108.2
15°	1310.6	1264.0	1225.1	1208.0	1324.6	1391.5	1399.3	1436.5	1503.4	1522.0	1607.6
17.5°	922.0	934.4	954.6	962.4	1046.4	1089.9	1077.5	1077.5	1088.3	1083.6	1131.9
20°	704.3	729.2	768.0	805.4	881.6	906.4	875.3	836.5	811.6	799.1	810.0
22.5°	621.9	639.0	663.9	712.1	775.8	788.3	747.9	716.8	693.5	681.0	682.5
25°	576.8	593.9	614.1	652.9	707.4	713.6	676.3	656.1	637.4	625.0	621.9
27.5°	538.0	548.8	561.3	586.2	642.1	645.2	620.3	607.9	595.5	586.2	583.0
30°	502.2	506.9	511.5	536.4	578.4	583.0	570.6	564.4	559.7	553.5	553.5
32.5°	455.5	461.8	469.5	491.3	531.7	538.0	530.2	525.5	517.7	514.6	509.9
35°	399.6	415.1	432.2	458.7	502.2	505.3	495.9	482.0	463.3	458.7	455.5
37.5°	376.2	379.3	401.1	432.2	477.3	480.4	468.0	444.7	430.7	432.2	435.4
40°	360.7	365.4	377.8	408.9	454.0	458.7	447.7	430.7	416.6	418.2	422.9
42.5°	348.2	354.5	362.2	382.5	427.6	436.9	433.7	418.2	404.3	407.3	413.6
45°	342.1	346.7	346.7	360.7	404.3	418.2	419.8	407.3	396.5	399.6	407.3
47.5°	338.9	338.9	334.3	345.1	388.7	402.6	405.8	399.6	393.3	396.5	404.3
50°	334.3	328.1	323.4	332.7	376.2	388.7	391.8	387.1	390.3	396.5	401.1
52.5°	320.3	314.0	314.0	320.3	363.8	376.2	377.8	374.7	380.9	388.7	396.5
55°	303.2	303.2	304.7	311.0	357.6	366.9	365.4	362.2	368.5	377.8	385.6
57.5°	287.7	286.1	293.9	301.7	349.8	356.0	352.9	352.9	357.6	365.4	373.2
60°	278.3	270.6	276.7	289.2	342.1	348.2	343.6	342.1	349.8	356.0	362.2
62.5°	268.9	261.2	265.9	278.3	331.1	335.8	332.7	332.7	340.4	345.1	351.4
65°	255.0	251.9	255.0	267.4	321.8	323.4	323.4	324.9	331.1	334.3	340.4
67.5°	242.5	242.5	244.1	256.6	314.0	311.0	311.0	318.8	320.3	323.4	329.6
70°	227.0	230.1	230.1	245.6	307.8	297.0	298.5	304.7	307.8	311.0	312.5
72.5°	209.9	211.4	214.5	234.8	298.5	282.9	284.5	289.2	290.7	295.4	297.0
75°	191.2	192.8	197.4	223.9	292.3	268.9	265.9	268.9	272.1	275.2	273.6
77.5°	169.5	172.6	177.3	217.7	272.1	265.9	242.5	245.6	248.8	248.8	247.2
80°	143.0	147.7	155.5	208.4	230.1	256.6	216.1	217.7	219.2	219.2	216.1
82.5°	107.3	116.6	127.5	172.6	180.3	219.2	186.6	189.7	185.1	181.9	180.3
85°	70.0	77.7	93.3	119.7	132.2	172.6	154.0	155.5	146.2	144.5	144.5
87.5°	28.0	29.6	41.9	60.7	79.3	107.3	110.4	113.4	105.8	105.8	108.8
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):**

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4
2.5°	6662.1	6817.6	6996.4	7178.3	7327.5	7520.2	7706.8	7905.9	8006.9	8066.0	8232.3
5°	5401.2	5614.2	5867.5	6152.1	6388.4	6792.7	7228.0	7713.0	7946.3	8176.3	8611.7
7.5°	3863.5	4071.9	4367.3	4735.8	5071.6	5604.8	6178.5	6834.6	7158.0	7531.2	8244.8
10°	2868.5	3089.3	3356.7	3669.2	4000.4	4555.4	5199.0	5936.0	6292.1	6713.3	7524.9
12.5°	2325.9	2584.0	2860.7	3140.6	3425.0	3798.2	4473.0	5292.3	5674.8	6099.2	6912.4
15°	1814.4	2091.1	2389.6	2694.4	2977.3	3393.9	4082.7	5051.3	5488.2	5898.6	6564.1
17.5°	1284.2	1545.4	1881.2	2251.3	2661.7	3154.6	3998.8	5157.1	5687.2	6116.3	6562.5
20°	875.3	1055.7	1391.5	1830.0	2336.7	2961.7	4029.9	5528.6	6191.0	6662.1	6831.5
22.5°	699.6	785.1	1012.1	1458.3	2056.9	2821.8	4157.4	6038.6	6913.9	7487.6	7321.3
25°	635.9	684.0	802.2	1152.0	1808.2	2728.5	4406.2	6711.8	7723.9	8305.4	7910.5
27.5°	597.0	639.0	715.1	946.8	1593.7	2668.0	4721.7	7504.7	8636.6	9113.9	8524.7
30°	572.1	614.1	684.0	850.5	1431.9	2577.7	4998.4	8229.2	9365.7	9675.2	8855.8
32.5°	524.0	556.6	614.1	761.8	1310.6	2472.1	5237.9	8877.6	10054.5	10157.1	9253.8
35°	474.2	508.4	565.9	690.3	1239.1	2389.6	5363.8	9452.8	10737.0	10639.1	9648.7
37.5°	455.5	483.5	536.4	639.0	1200.2	2335.2	5412.0	10018.8	11469.3	11172.4	9923.9
40°	443.1	468.0	514.6	604.8	1189.4	2283.9	5401.2	10556.6	12179.9	11724.2	10140.0
42.5°	433.7	455.5	499.1	581.4	1159.8	2235.8	5365.4	11021.6	12748.8	12200.0	10346.7
45°	426.0	449.3	492.9	593.9	1105.4	2182.9	5343.6	11446.0	13185.7	12601.1	10623.5
47.5°	422.9	449.3	494.4	590.8	1046.4	2123.7	5421.3	11917.1	13566.7	12938.5	10992.0
50°	418.2	447.7	528.7	562.8	965.5	2050.7	5684.1	12478.4	13966.2	13317.9	11469.3
52.5°	410.4	446.2	564.4	541.0	861.3	1949.6	6110.1	13271.3	14656.5	14056.4	12175.2
55°	401.1	449.3	539.5	506.9	750.9	1819.0	6536.1	14358.0	15775.9	15247.3	13188.8
57.5°	390.3	444.7	509.9	475.8	659.2	1654.2	6859.5	15248.8	16699.5	16475.5	14434.1
60°	382.5	455.5	458.7	457.1	600.2	1497.2	6890.6	15191.3	16965.3	17273.1	15653.1
62.5°	373.2	464.8	418.2	443.1	570.6	1351.1	6506.6	14250.7	16516.0	17170.5	16646.6
65°	360.7	405.8	396.5	430.7	570.6	1273.4	5612.6	12685.1	15273.8	16200.4	17186.1
67.5°	348.2	368.5	380.9	413.6	583.0	1200.2	4510.3	10699.7	13314.7	14634.7	16579.7
70°	331.1	348.2	363.8	398.0	576.8	1149.0	3549.4	8575.9	10957.7	12469.0	14902.1
72.5°	315.6	328.1	343.6	374.7	576.8	1125.7	2851.4	6727.3	8366.0	9639.4	12344.7
75°	292.3	303.2	317.2	351.4	565.9	1029.2	2140.8	5390.2	6121.0	6918.6	9740.4
77.5°	268.9	276.7	287.7	321.8	509.9	859.8	1514.3	4174.5	4535.2	4976.8	7593.4
80°	239.5	245.6	253.4	287.7	422.9	667.0	985.7	3265.0	3390.9	3603.9	4995.4
82.5°	205.2	214.5	216.1	247.2	340.4	483.5	586.2	2237.3	2235.8	2548.2	3524.6
85°	167.9	172.6	175.6	194.4	251.9	321.8	385.6	1222.0	1089.9	1526.8	3061.3
87.5°	125.9	121.2	125.9	130.6	166.3	189.7	206.7	225.5	135.2	276.7	1780.1
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):**

	295°	305°	315°	325°	335°	345°	355°	360°
0°	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4
2.5°	8321.0	8412.6	8358.2	8293.0	8129.7	7890.3	7706.8	7546.7
5°	8913.3	9082.8	9008.1	8765.6	8342.7	7862.3	7357.1	7049.2
7.5°	8838.7	9174.5	9145.0	8740.7	8134.4	7427.0	6716.5	6310.7
10°	8241.7	8712.8	8793.6	8380.0	7737.9	6946.6	6124.1	5665.5
12.5°	7591.8	7988.2	8153.0	7996.0	7391.2	6587.4	5749.4	5290.8
15°	7047.6	7248.2	7411.5	7512.4	7137.8	6459.9	5684.1	5211.5
17.5°	6645.0	6606.1	6742.9	6985.4	7001.0	6629.4	5979.6	5450.9
20°	6450.6	6145.9	6225.2	6565.7	6963.6	7060.1	6568.8	5943.8
22.5°	6439.7	5964.0	5979.6	6346.5	7070.9	7647.8	7304.2	6592.1
25°	6607.6	5943.8	5957.8	6323.2	7260.6	8240.1	8154.6	7324.3
27.5°	6893.7	6030.8	6021.5	6425.8	7514.1	8734.6	9012.8	8219.9
30°	7203.1	6156.7	6133.4	6590.6	7762.8	9039.2	9622.3	8894.7
32.5°	7588.7	6380.7	6299.8	6831.5	8008.5	9331.6	10143.1	9525.9
35°	7955.6	6708.7	6592.1	7176.7	8271.2	9656.5	10726.2	10224.0
37.5°	8330.3	7198.4	7133.1	7674.2	8642.8	10009.4	11393.1	11015.3
40°	8810.7	7894.9	7863.8	8397.1	9138.7	10395.0	12141.0	11839.3
42.5°	9328.4	8635.0	8608.5	9227.3	9754.4	10782.1	12781.5	12546.7
45°	9855.5	9532.1	9538.3	10113.6	10402.8	11147.5	13285.3	13112.7
47.5°	10477.4	10513.2	10735.5	11032.4	11034.0	11554.8	13731.5	13639.7
50°	11267.2	11697.9	12108.3	12154.9	11671.5	12092.7	14277.1	14243.0
52.5°	12161.1	13064.5	13541.7	13394.1	12293.3	12759.8	15084.0	15082.5
55°	13223.1	14493.3	14942.5	14690.7	13038.0	13628.9	16138.2	16069.7
57.5°	14323.8	15867.7	16229.9	15901.9	13969.3	14641.0	17195.4	16833.2
60°	15513.2	17050.9	17419.3	16926.5	15014.2	15650.0	17895.0	17047.7
62.5°	16292.1	17742.7	18007.0	17534.3	15950.1	16677.7	18120.4	16791.1
65°	16332.5	17282.4	17352.4	17184.6	16348.1	17570.1	17794.0	16030.9
67.5°	15222.4	15278.4	15370.1	15550.5	15497.6	17172.1	16534.7	14255.4
70°	12848.4	12102.1	12403.7	12577.8	12969.6	15273.8	14207.2	11593.7
72.5°	9824.4	8734.6	9076.5	9017.5	9832.2	12528.1	10869.2	8930.5
75°	7070.9	5956.2	5982.6	5985.7	7064.7	10000.1	7411.5	6341.8
77.5°	4805.7	4214.9	4301.9	4247.5	4728.0	7834.4	5335.8	4571.0
80°	3286.7	3271.2	3289.8	3162.4	3153.0	5063.8	3950.6	3645.9
82.5°	2437.8	2252.8	2226.4	2091.1	2416.1	3871.3	2999.1	2619.8
85°	1923.2	1246.9	1083.6	1307.5	2092.7	3561.9	1828.4	1343.3
87.5°	814.7	489.8	297.0	587.7	1163.0	2610.4	506.9	261.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)