

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: P195767

Luminaire Tested: **NAV-AF-05-D-UNV-SLR-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195767
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-05-D-UNV-SLR-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 1200mA 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: 29134 lumens
Efficiency: N/A
Efficacy: 91.0 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 - G5

Input Watts (W): 320
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

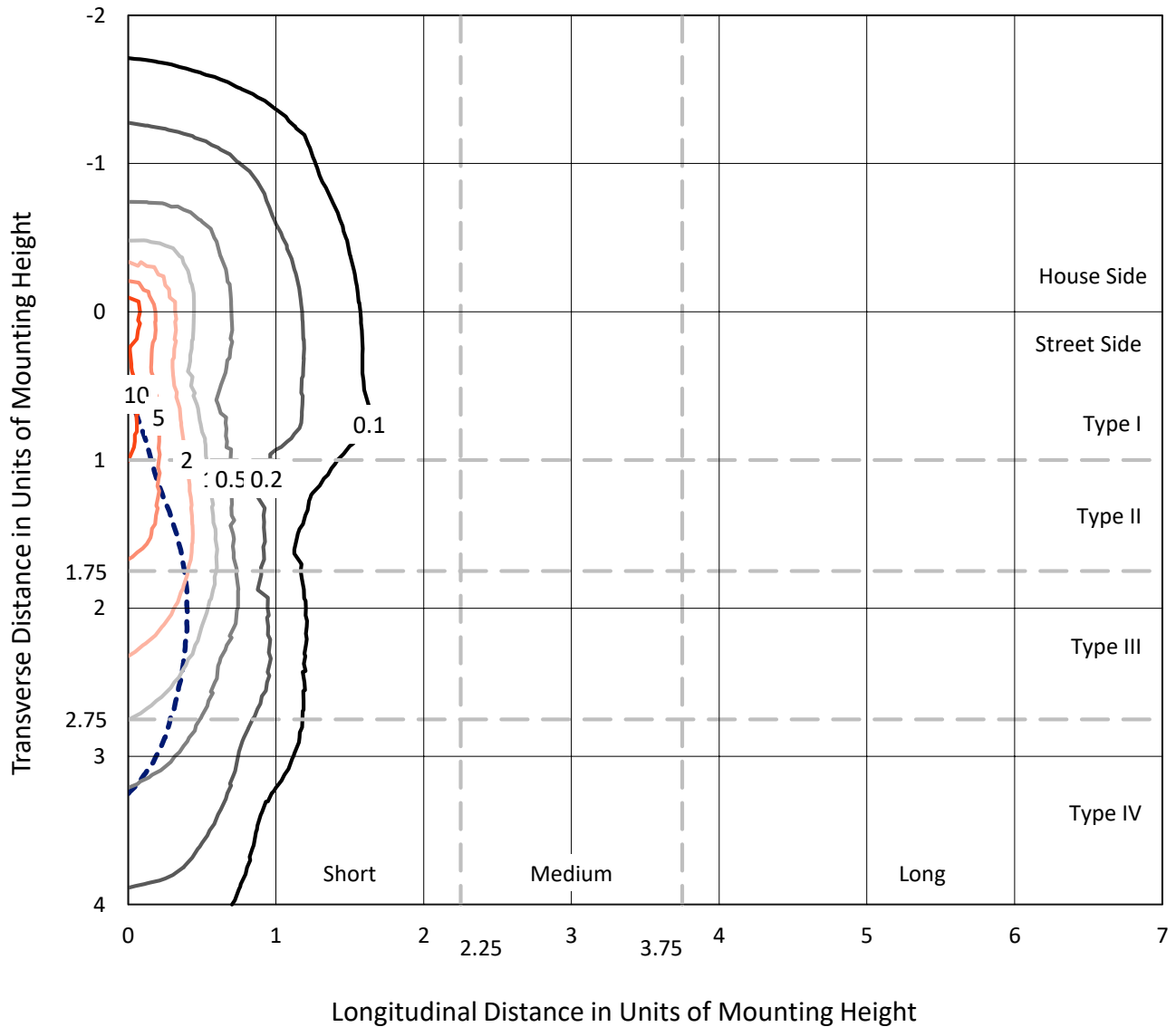


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Iso-Footcandle Lines of Horizontal Illumination

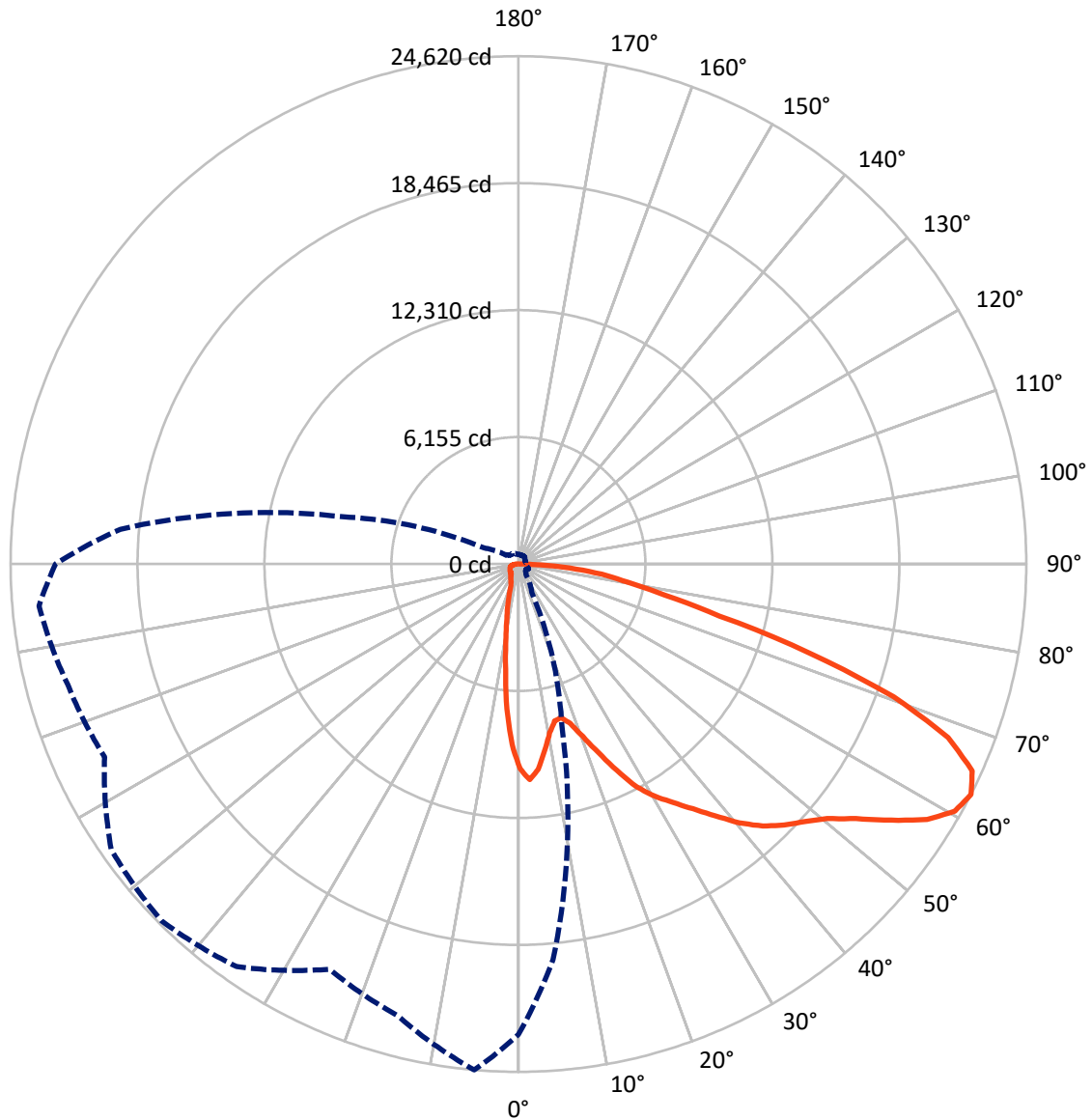
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 15.9 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
House Side	Lumens	5161.1	0.0	5161.1
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	23972.9	0.0	23972.9
	% Fixture	82.3	0.0	82.3
Total	Lumens	29134.0	0.0	29134.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	722.3	2.5
10°-20°	1319.3	4.5
20°-30°	1897.5	6.5
30°-40°	2906.3	10.0
40°-50°	4249.1	14.6
50°-60°	6182.4	21.2
60°-70°	7163.2	24.6
70°-80°	3734.0	12.8
80°-90°	959.8	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°	29134.0	100.0
0°-180°	29134.0	100.0

Coefficient of Utilization



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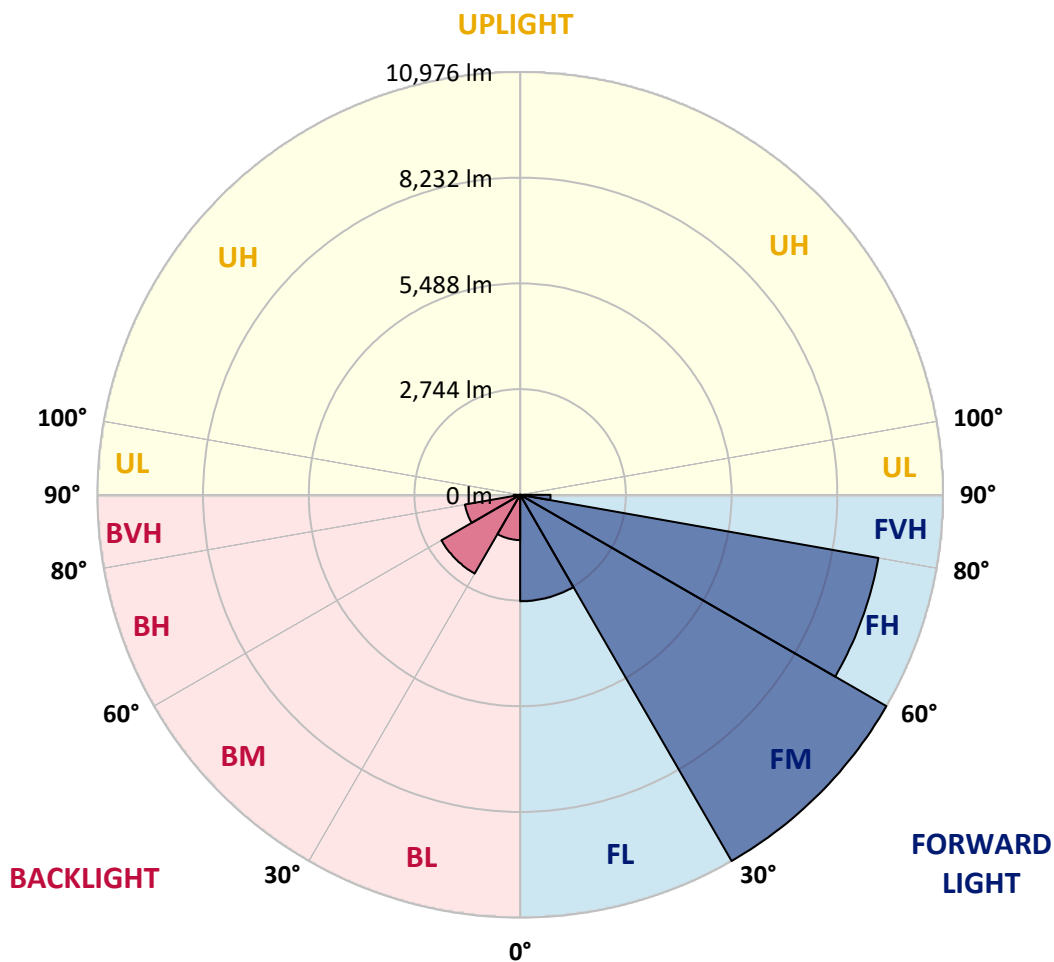
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2764.9	9.5			
FM	(30°-60°)	10976.3	37.7			
FH	(60°-80°)	9441.9	32.4			G4/12000
FVH	(80°-90°)	789.7	2.7			G5
BL	(0°-30°)	1174.2	4.0	B3/2500		
BM	(30°-60°)	2361.4	8.1	B2/2500		
BH	(60°-80°)	1455.3	5.0	B3/2500		G3/2500
BVH	(80°-90°)	170.2	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-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4
2.5°	10253.4	10109.8	9778.2	9486.7	9123.3	8850.8	8519.2	8343.9	8215.0	8128.4	8058.7
5°	9577.5	9231.1	8597.3	8041.8	7441.9	7008.8	6501.9	6225.2	6054.1	5961.1	5918.9
7.5°	8574.1	8115.7	7296.1	6550.5	5800.6	5259.8	4875.3	4465.5	4248.0	4106.4	4060.0
10°	7697.5	7179.9	6201.9	5363.3	4784.5	4400.1	4070.5	3694.5	3415.7	3172.8	3081.9
12.5°	7188.4	6586.4	5471.0	4712.7	4226.9	3814.9	3466.4	3060.8	2767.2	2513.7	2416.6
15°	7080.7	6408.9	5164.7	4298.7	3703.0	3206.6	2788.3	2346.8	2059.6	1850.4	1782.8
17.5°	7406.0	6577.9	5035.9	3920.6	3202.4	2596.1	2080.7	1607.5	1368.8	1254.7	1227.3
20°	8075.6	6949.7	4974.6	3580.5	2716.5	1998.3	1438.5	1092.1	973.8	940.0	937.9
22.5°	8956.4	7553.8	5042.2	3301.6	2260.2	1474.4	1054.1	897.8	849.2	830.2	830.2
25°	9951.4	8371.3	5221.8	3088.3	1858.9	1147.0	908.3	823.8	783.7	764.7	766.8
27.5°	11168.1	9366.2	5466.8	2891.8	1571.6	1005.5	849.2	777.4	737.2	718.2	720.3
30°	12084.9	10221.8	5678.0	2712.3	1423.7	948.5	817.5	749.9	705.5	678.1	676.0
32.5°	12942.5	10975.9	5849.2	2583.4	1339.2	847.1	739.3	688.6	650.6	618.9	612.6
35°	13890.9	11685.6	5929.4	2579.2	1284.3	764.7	676.0	614.7	576.7	540.8	534.4
37.5°	14966.1	12553.8	5997.0	2604.6	1254.7	711.9	646.4	587.2	555.6	519.6	511.2
40°	16085.7	13403.0	6049.8	2625.7	1250.5	676.0	623.1	570.3	538.7	500.6	492.2
42.5°	17046.8	14155.0	6121.6	2617.2	1220.9	669.6	608.4	555.6	526.0	488.0	477.4
45°	17815.7	14752.8	6233.6	2615.1	1176.6	684.4	604.1	551.3	515.4	475.3	466.8
47.5°	18531.8	15426.6	6470.2	2606.7	1128.0	680.2	627.4	547.1	511.2	471.1	464.7
50°	19351.4	16332.8	6873.7	2543.3	1060.4	650.6	669.6	542.9	500.6	464.7	458.4
52.5°	20492.1	17659.4	7471.5	2429.2	967.5	618.9	676.0	540.8	483.7	452.0	443.6
55°	21833.5	19081.0	8115.7	2264.5	844.9	564.0	642.2	532.3	466.8	433.0	420.4
57.5°	22870.6	20130.9	8565.7	2027.9	724.5	532.3	572.5	513.3	445.7	411.9	401.4
60°	23162.1	20177.4	8645.9	1744.8	663.3	511.2	492.2	559.8	428.8	392.9	382.3
62.5°	22813.6	19254.2	8122.1	1546.3	642.2	490.1	447.8	534.4	411.9	376.0	365.4
65°	21780.6	17695.3	6949.7	1516.7	663.3	471.1	424.6	426.7	395.0	359.1	348.5
67.5°	19368.3	15401.3	5475.3	1535.7	688.6	452.0	407.7	388.7	376.0	344.3	331.6
70°	15751.9	12399.6	4313.5	1569.5	711.9	426.7	386.6	363.3	352.8	319.0	312.6
72.5°	12133.4	9923.9	3403.0	1546.3	735.1	401.4	357.0	338.0	325.3	293.6	287.3
75°	8616.4	7885.5	2501.0	1326.6	673.8	365.4	323.2	306.3	295.7	261.9	259.8
77.5°	6210.4	5906.2	1740.6	997.0	532.3	321.1	285.2	270.4	264.0	226.0	226.0
80°	4953.5	4495.1	1041.4	650.6	388.7	266.2	238.7	232.4	226.0	188.0	190.1
82.5°	3559.3	3117.9	665.4	405.6	285.2	202.8	185.9	183.8	173.2	139.4	139.4
85°	1825.1	1592.7	426.7	272.5	200.7	131.0	122.5	118.3	112.0	86.6	86.6
87.5°	354.9	488.0	236.6	133.1	97.2	46.5	46.5	40.1	46.5	31.7	33.8
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4
2.5°	8191.8	8149.5	8119.9	8105.2	8318.5	8407.2	8508.6	8654.4	8753.7	8711.4	8846.6
5°	6117.4	6147.0	6214.6	6320.2	6618.1	6759.6	6850.4	6970.8	7057.4	6970.8	7114.5
7.5°	4182.5	4226.9	4370.5	4588.1	4947.2	5105.6	5137.3	5139.4	5120.4	4978.9	5076.0
10°	3079.8	2991.1	3022.8	3179.1	3500.2	3641.7	3656.5	3618.5	3612.2	3555.1	3665.0
12.5°	2387.0	2264.5	2192.6	2218.0	2458.8	2575.0	2594.0	2615.1	2701.7	2729.2	2864.4
15°	1780.7	1717.4	1664.5	1641.3	1799.7	1890.6	1901.1	1951.8	2042.7	2068.0	2184.2
17.5°	1252.6	1269.5	1297.0	1307.6	1421.6	1480.8	1463.9	1463.9	1478.7	1472.3	1537.8
20°	956.9	990.7	1043.5	1094.2	1197.7	1231.5	1189.3	1136.5	1102.7	1085.8	1100.5
22.5°	844.9	868.2	902.0	967.5	1054.1	1071.0	1016.0	973.8	942.1	925.2	927.3
25°	783.7	806.9	834.4	887.2	961.1	969.6	918.9	891.4	866.1	849.2	844.9
27.5°	730.9	745.7	762.6	796.4	872.4	876.6	842.8	825.9	809.0	796.4	792.1
30°	682.3	688.6	695.0	728.8	785.8	792.1	775.2	766.8	760.5	752.0	752.0
32.5°	618.9	627.4	637.9	667.5	722.4	730.9	720.3	714.0	703.4	699.2	692.9
35°	542.9	564.0	587.2	623.1	682.3	686.5	673.8	654.8	629.5	623.1	618.9
37.5°	511.2	515.4	545.0	587.2	648.5	652.7	635.8	604.1	585.1	587.2	591.5
40°	490.1	496.4	513.3	555.6	616.8	623.1	608.4	585.1	566.1	568.2	574.6
42.5°	473.2	481.6	492.2	519.6	580.9	593.6	589.4	568.2	549.2	553.4	561.9
45°	464.7	471.1	471.1	490.1	549.2	568.2	570.3	553.4	538.7	542.9	553.4
47.5°	460.5	460.5	454.2	468.9	528.1	547.1	551.3	542.9	534.4	538.7	549.2
50°	454.2	445.7	439.4	452.0	511.2	528.1	532.3	526.0	530.2	538.7	545.0
52.5°	435.1	426.7	426.7	435.1	494.3	511.2	513.3	509.1	517.5	528.1	538.7
55°	411.9	411.9	414.0	422.5	485.8	498.5	496.4	492.2	500.6	513.3	523.9
57.5°	390.8	388.7	399.2	409.8	475.3	483.7	479.5	479.5	485.8	496.4	507.0
60°	378.1	367.6	376.0	392.9	464.7	473.2	466.8	464.7	475.3	483.7	492.2
62.5°	365.4	354.9	361.2	378.1	449.9	456.3	452.0	452.0	462.6	468.9	477.4
65°	346.4	342.2	346.4	363.3	437.3	439.4	439.4	441.5	449.9	454.2	462.6
67.5°	329.5	329.5	331.6	348.5	426.7	422.5	422.5	433.0	435.1	439.4	447.8
70°	308.4	312.6	312.6	333.8	418.2	403.5	405.6	414.0	418.2	422.5	424.6
72.5°	285.2	287.3	291.5	319.0	405.6	384.5	386.6	392.9	395.0	401.4	403.5
75°	259.8	261.9	268.3	304.2	397.1	365.4	361.2	365.4	369.7	373.9	371.8
77.5°	230.2	234.5	240.8	295.7	369.7	361.2	329.5	333.8	338.0	338.0	335.9
80°	194.3	200.7	211.2	283.1	312.6	348.5	293.6	295.7	297.8	297.8	293.6
82.5°	145.8	158.4	173.2	234.5	245.0	297.8	253.5	257.7	251.4	247.1	245.0
85°	95.1	105.6	126.7	162.7	179.6	234.5	209.1	211.2	198.6	196.5	196.5
87.5°	38.0	40.1	57.0	82.4	107.7	145.8	150.0	154.2	143.6	143.6	147.9
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4
2.5°	9051.5	9262.7	9505.7	9752.8	9955.6	10217.5	10471.0	10741.4	10878.7	10959.0	11185.0
5°	7338.4	7627.8	7972.1	8358.6	8679.7	9228.9	9820.4	10479.5	10796.3	11109.0	11700.4
7.5°	5249.2	5532.3	5933.6	6434.3	6890.5	7615.1	8394.6	9286.0	9725.3	10232.3	11201.9
10°	3897.3	4197.3	4560.6	4985.2	5435.1	6189.2	7063.8	8065.0	8548.8	9121.2	10223.9
12.5°	3160.1	3510.8	3886.8	4267.0	4653.5	5160.5	6077.3	7190.5	7710.1	8286.8	9391.6
15°	2465.1	2841.1	3246.7	3660.7	4045.2	4611.3	5547.1	6863.1	7456.7	8014.3	8918.4
17.5°	1744.8	2099.7	2556.0	3058.7	3616.4	4286.0	5433.0	7006.7	7727.0	8310.1	8916.3
20°	1189.3	1434.3	1890.6	2486.3	3174.9	4024.1	5475.3	7511.6	8411.5	9051.5	9281.8
22.5°	950.6	1066.7	1375.2	1981.4	2794.7	3834.0	5648.5	8204.4	9393.7	10173.2	9947.1
25°	864.0	929.4	1090.0	1565.3	2456.7	3707.2	5986.5	9119.1	10494.3	11284.3	10747.7
27.5°	811.1	868.2	971.7	1286.4	2165.2	3624.8	6415.3	10196.4	11734.2	12382.7	11582.1
30°	777.4	834.4	929.4	1155.5	1945.5	3502.3	6791.3	11180.8	12724.9	13145.3	12032.1
32.5°	711.9	756.2	834.4	1035.1	1780.7	3358.7	7116.6	12061.6	13660.7	13800.1	12572.8
35°	644.3	690.7	768.9	937.9	1683.6	3246.7	7287.7	12843.2	14588.0	14454.9	13109.4
37.5°	618.9	656.9	728.8	868.2	1630.7	3172.8	7353.2	13612.1	15582.9	15179.5	13483.3
40°	602.0	635.8	699.2	821.7	1616.0	3103.1	7338.4	14343.0	16548.3	15929.4	13776.9
42.5°	589.4	618.9	678.1	790.0	1575.8	3037.6	7289.8	14974.6	17321.4	16575.8	14057.8
45°	578.8	610.5	669.6	806.9	1501.9	2965.8	7260.2	15551.3	17915.0	17120.8	14433.8
47.5°	574.6	610.5	671.7	802.7	1421.6	2885.5	7365.8	16191.3	18432.5	17579.1	14934.5
50°	568.2	608.4	718.2	764.7	1311.8	2786.2	7722.8	16953.9	18975.4	18094.6	15582.9
52.5°	557.7	606.3	766.8	735.1	1170.3	2648.9	8301.6	18031.2	19913.3	19097.9	16542.0
55°	545.0	610.5	733.0	688.6	1020.3	2471.5	8880.4	19507.7	21434.2	20716.0	17919.2
57.5°	530.2	604.1	692.9	646.4	895.6	2247.6	9319.8	20718.1	22689.0	22384.8	19611.2
60°	519.6	618.9	623.1	621.0	815.4	2034.2	9362.0	20640.0	23050.2	23468.4	21267.3
62.5°	507.0	631.6	568.2	602.0	775.2	1835.6	8840.3	19362.0	22439.7	23329.0	22617.1
65°	490.1	551.3	538.7	585.1	775.2	1730.0	7625.7	17234.8	20751.9	22010.9	23350.1
67.5°	473.2	500.6	517.5	561.9	792.1	1630.7	6128.0	14537.3	18090.3	19883.7	22526.3
70°	449.9	473.2	494.3	540.8	783.7	1561.0	4822.5	11651.8	14888.0	16941.2	20247.1
72.5°	428.8	445.7	466.8	509.1	783.7	1529.4	3874.1	9140.2	11366.7	13096.7	16772.2
75°	397.1	411.9	430.9	477.4	768.9	1398.4	2908.7	7323.6	8316.4	9400.0	13234.0
77.5°	365.4	376.0	390.8	437.3	692.9	1168.1	2057.4	5671.7	6161.8	6761.7	10316.8
80°	325.3	333.8	344.3	390.8	574.6	906.2	1339.2	4436.0	4607.1	4896.5	6787.0
82.5°	278.8	291.5	293.6	335.9	462.6	656.9	796.4	3039.7	3037.6	3462.2	4788.7
85°	228.1	234.5	238.7	264.0	342.2	437.3	523.9	1660.3	1480.8	2074.3	4159.3
87.5°	171.1	164.8	171.1	177.4	226.0	257.7	280.9	306.3	183.8	376.0	2418.7
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4
2.5°	11305.4	11430.0	11356.1	11267.4	11045.6	10720.3	10471.0	10253.4
5°	12110.2	12340.5	12239.1	11909.5	11335.0	10682.3	9995.7	9577.5
7.5°	12008.8	12465.1	12425.0	11875.7	11051.9	10090.8	9125.4	8574.1
10°	11197.7	11837.7	11947.6	11385.7	10513.3	9438.1	8320.6	7697.5
12.5°	10314.7	10853.4	11077.3	10863.9	10042.2	8950.1	7811.5	7188.4
15°	9575.4	9847.9	10069.7	10207.0	9697.9	8776.9	7722.8	7080.7
17.5°	9028.3	8975.5	9161.3	9490.9	9512.0	9007.1	8124.2	7406.0
20°	8764.2	8350.2	8457.9	8920.5	9461.3	9592.3	8924.8	8075.6
22.5°	8749.4	8103.0	8124.2	8622.7	9607.1	10390.7	9923.9	8956.4
25°	8977.6	8075.6	8094.6	8591.0	9864.8	11195.6	11079.4	9951.4
27.5°	9366.2	8193.9	8181.2	8730.4	10209.1	11867.3	12245.4	11168.1
30°	9786.6	8365.0	8333.3	8954.3	10547.1	12281.3	13073.5	12084.9
32.5°	10310.5	8669.2	8559.3	9281.8	10880.8	12678.4	13781.1	12942.5
35°	10809.0	9114.9	8956.4	9750.7	11237.8	13119.9	14573.2	13890.9
37.5°	11318.1	9780.3	9691.6	10426.7	11742.7	13599.4	15479.4	14966.1
40°	11970.8	10726.6	10684.4	11408.9	12416.5	14123.3	16495.5	16085.7
42.5°	12674.2	11732.1	11696.2	12536.9	13253.0	14649.3	17365.8	17046.8
45°	13390.3	12950.9	12959.4	13741.0	14133.9	15145.7	18050.2	17815.7
47.5°	14235.3	14283.8	14585.9	14989.4	14991.5	15699.1	18656.4	18531.8
50°	15308.3	15893.5	16451.1	16514.5	15857.6	16430.0	19397.9	19351.4
52.5°	16523.0	17750.2	18398.7	18198.1	16702.5	17336.2	20494.2	20492.1
55°	17965.7	19691.5	20302.0	19959.8	17714.3	18517.0	21926.4	21833.5
57.5°	19461.3	21558.8	22051.0	21605.3	18979.6	19892.2	23362.8	22870.6
60°	21077.2	23166.4	23667.0	22997.4	20399.2	21263.1	24313.4	23162.1
62.5°	22135.5	24106.4	24465.5	23823.3	21670.8	22659.4	24619.7	22813.6
65°	22190.4	23481.1	23576.2	23348.0	22211.6	23871.9	24176.1	21780.6
67.5°	20682.2	20758.3	20882.9	21127.9	21056.1	23331.1	22465.0	19368.3
70°	17456.6	16442.7	16852.5	17089.1	17621.4	20751.9	19302.8	15751.9
72.5°	13348.1	11867.3	12332.0	12251.7	13358.6	17021.5	14767.6	12133.4
75°	9607.1	8092.5	8128.4	8132.6	9598.6	13586.8	10069.7	8616.4
77.5°	6529.3	5726.6	5844.9	5771.0	6423.7	10644.2	7249.7	6210.4
80°	4465.5	4444.4	4469.8	4296.6	4283.9	6880.0	5367.5	4953.5
82.5°	3312.2	3060.8	3024.9	2841.1	3282.6	5259.8	4074.8	3559.3
85°	2613.0	1694.1	1472.3	1776.5	2843.2	4839.4	2484.1	1825.1
87.5°	1106.9	665.4	403.5	798.5	1580.1	3546.7	688.6	354.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)