

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: P196704

Luminaire Tested: **NAV-AF-06-D-UNV-SLL-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196704
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-SLL-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR LEFT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 33754.6 lumens
Efficiency: N/A
Efficacy: 88.4 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): 382
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

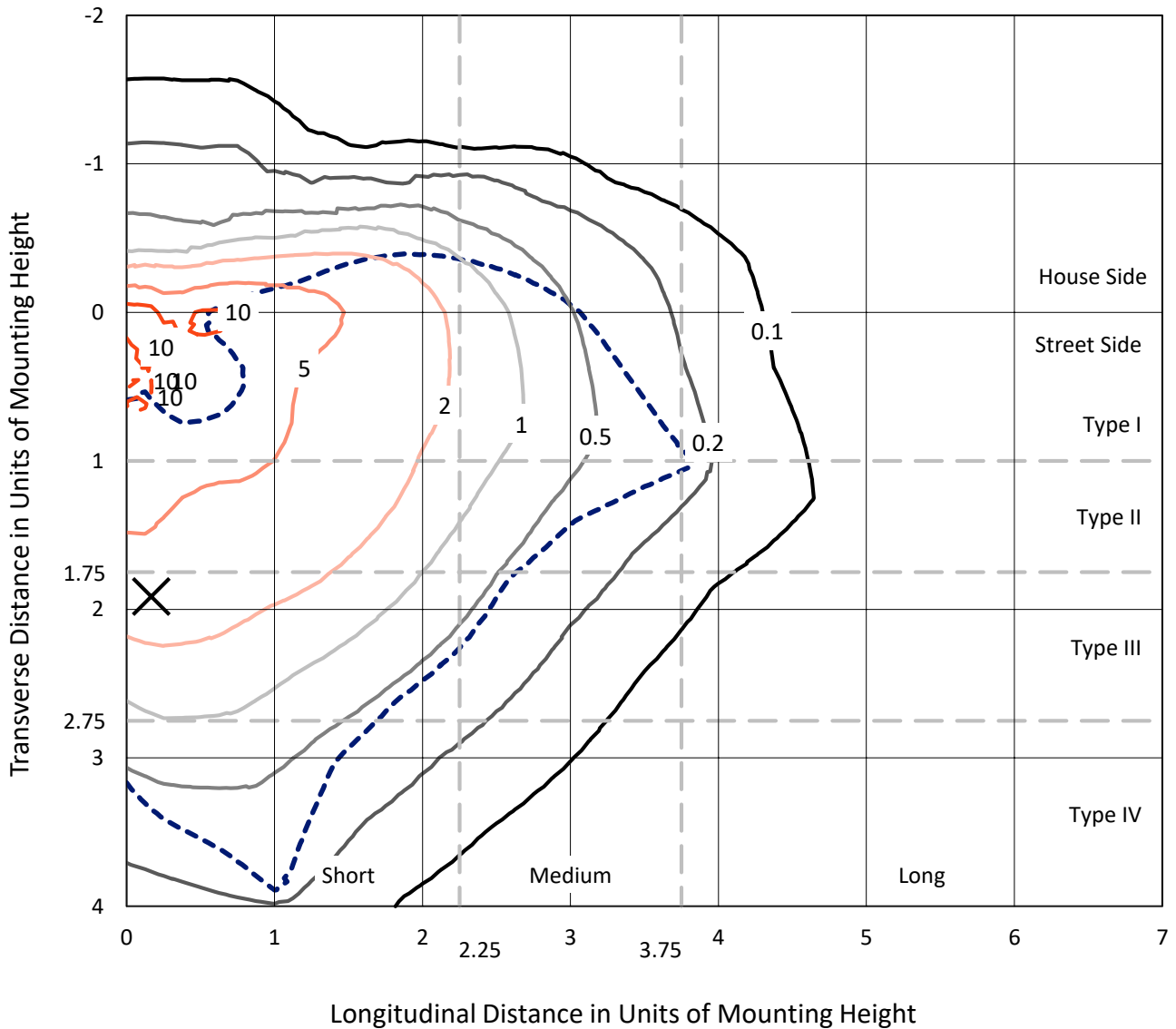


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Iso-Footcandle Lines of Horizontal Illumination

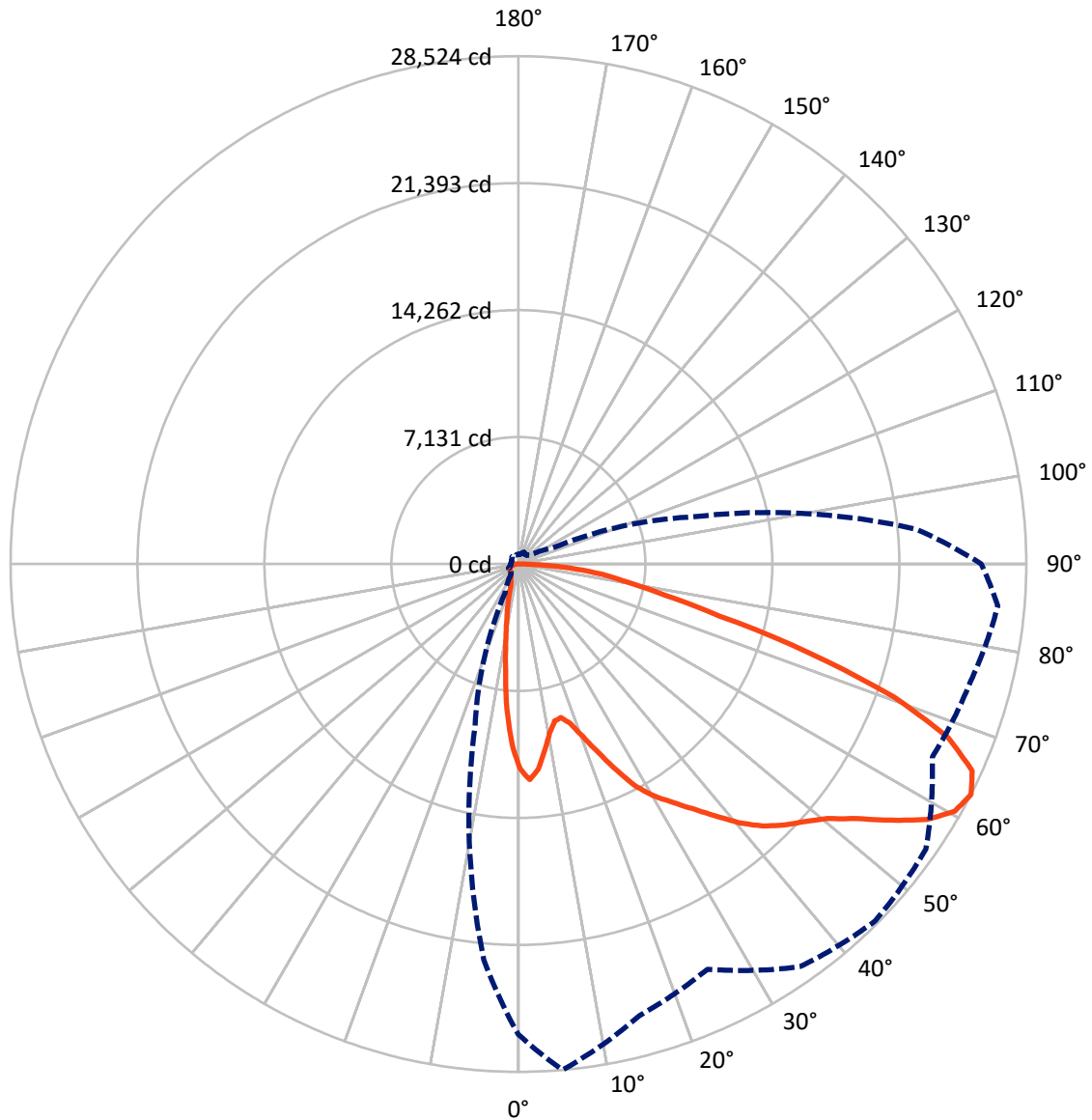
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 14.7 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5979.7	0.0	5979.7
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	27774.9	0.0	27774.9
	% Fixture	82.3	0.0	82.3
Total	Lumens	33754.6	0.0	33754.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	836.9	2.5
10°-20°	1528.6	4.5
20°-30°	2198.5	6.5
30°-40°	3367.2	10.0
40°-50°	4922.9	14.6
50°-60°	7162.9	21.2
60°-70°	8299.2	24.6
70°-80°	4326.3	12.8
80°-90°	1112.1	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°	33754.6	100.0
0°-180°	33754.6	100.0



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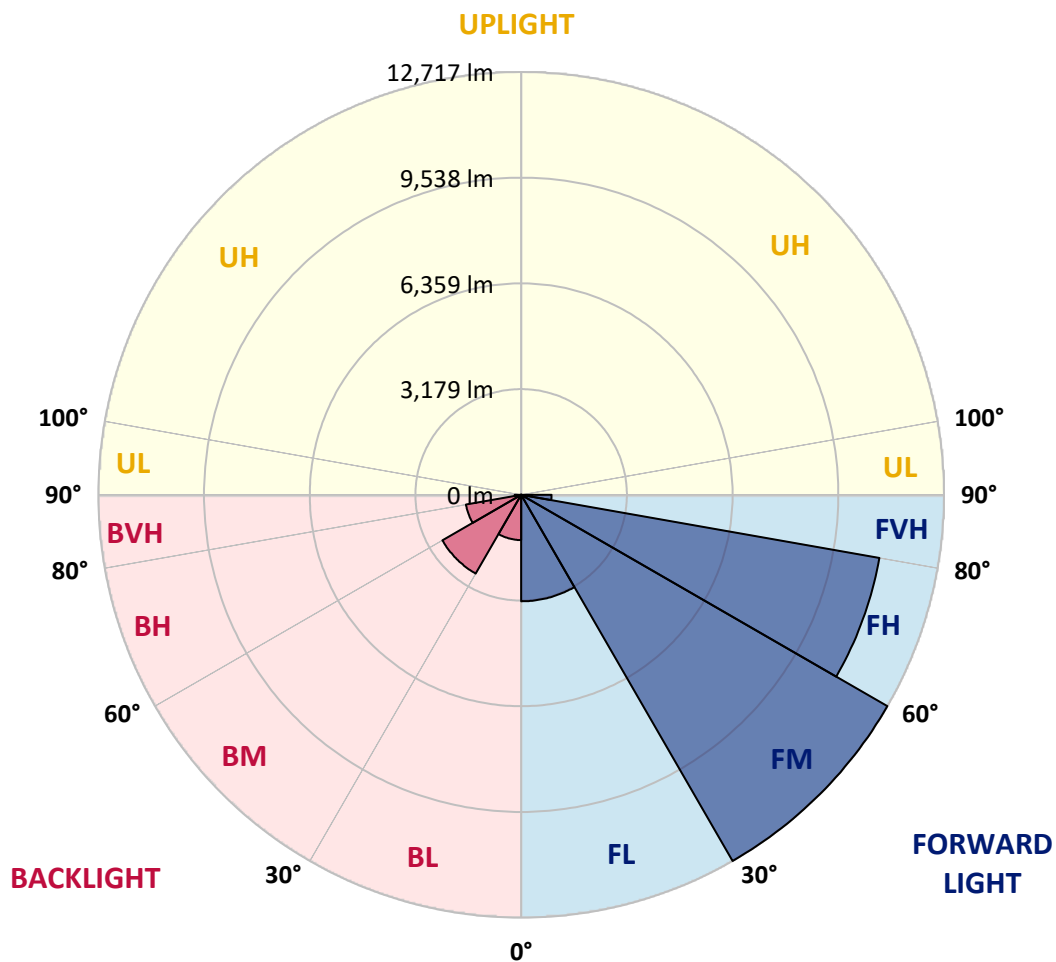
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	3203.5	9.5			
FM (30°-60°)	12717.2	37.7			
FH (60°-80°)	10939.4	32.4			G4/12000
FVH (80°-90°)	914.9	2.7			G5
BL (0°-30°)	1360.5	4.0	B3/2500		
BM (30°-60°)	2735.9	8.1	B3/5000		
BH (60°-80°)	1686.1	5.0	B3/2500		G3/2500
BVH (80°-90°)	197.2	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°	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6
2.5°	11879.6	12131.7	12420.5	12797.3	13054.3	13157.1	13242.8	13098.4	12958.9	12697.0	12604.0
5°	11096.5	11581.1	12376.5	13132.6	13798.4	14180.1	14297.6	14030.8	13556.1	12870.7	12508.5
7.5°	9934.0	10572.7	11691.2	12804.7	13759.2	14395.6	14442.0	13913.4	12978.5	11855.1	11267.8
10°	8918.3	9640.3	10934.8	12180.7	13191.4	13842.4	13715.1	12973.6	11845.4	10567.8	9904.6
12.5°	8328.4	9050.4	10369.6	11634.9	12586.8	12834.0	12574.6	11950.6	10881.0	9601.0	8932.9
15°	8203.6	8947.7	10168.9	11235.9	11825.7	11666.7	11409.7	11093.9	10332.8	9285.4	8639.2
17.5°	8580.5	9412.6	10435.7	11020.6	10996.1	10614.3	10399.0	10460.2	10330.5	9628.0	8952.4
20°	9356.3	10340.2	11113.6	10961.9	10335.3	9799.4	9674.5	10154.2	10753.9	10487.0	9745.5
22.5°	10376.9	11497.8	12038.7	11130.7	9990.2	9412.6	9388.2	10137.1	11524.7	11786.6	10883.6
25°	11529.6	12836.6	12971.1	11429.3	9953.5	9378.4	9356.3	10401.4	12452.3	13074.0	12158.6
27.5°	12939.3	14187.6	13749.4	11828.2	10115.0	9478.7	9493.4	10851.7	13419.0	14346.7	13595.2
30°	14001.5	15146.8	14229.1	12219.8	10374.5	9654.9	9691.7	11338.7	13940.3	15230.0	14743.0
32.5°	14995.1	15966.7	14689.3	12606.5	10753.9	9916.8	10044.1	11945.7	14566.9	15988.8	15827.2
35°	16094.0	16884.5	15200.7	13020.1	11297.1	10376.9	10560.5	12523.3	15188.4	16747.5	16901.7
37.5°	17339.7	17934.5	15756.3	13605.0	12080.2	11228.6	11331.4	13113.1	15621.7	17586.9	18054.3
40°	18636.8	19111.6	16363.2	14385.7	13218.3	12378.8	12427.8	13869.4	15961.8	18455.7	19172.9
42.5°	19750.4	20120.0	16972.7	15354.9	14525.3	13551.2	13592.7	14684.3	16287.4	19204.6	20068.5
45°	20641.3	20912.9	17547.7	16375.4	15920.2	15014.7	15004.9	15513.9	16723.0	19836.0	20756.3
47.5°	21470.9	21615.3	18188.9	17369.1	17366.6	16899.2	16549.2	16492.9	17303.0	20367.1	21356.0
50°	22420.4	22474.3	19035.8	18372.5	19133.7	19060.3	18414.1	17736.2	18054.3	20964.3	21984.8
52.5°	23742.0	23744.5	20085.6	19351.5	21084.2	21316.7	20565.4	19143.5	19165.5	22126.7	23071.5
55°	25296.1	25403.9	21453.8	20523.8	23125.4	23521.8	22814.5	20815.0	20761.1	24001.5	24833.6
57.5°	26497.8	27068.1	23047.0	21989.7	25031.9	25548.2	24978.0	22547.8	22721.5	25935.0	26287.3
60°	26835.6	28169.4	24635.3	23634.4	26644.6	27420.5	26840.4	24420.0	24640.2	27190.5	26705.8
62.5°	26431.8	28524.4	26253.2	25107.7	27601.6	28345.5	27929.5	25646.1	26204.2	27028.9	25998.6
65°	25234.9	28010.4	27657.9	25734.3	27051.0	27315.3	27205.1	25709.8	27053.3	25501.7	24043.1
67.5°	22440.1	26028.0	27031.4	24395.5	24478.8	24194.8	24050.4	23962.3	26098.9	23037.2	20959.4
70°	18250.1	22364.2	24043.1	20416.0	19799.3	19525.2	19050.5	20225.2	23458.2	19628.0	17249.2
72.5°	14057.8	17109.7	19721.0	15477.2	14194.9	14287.9	13749.4	15465.0	19432.2	15173.8	13169.3
75°	9982.9	11666.7	15741.5	11121.0	9422.4	9417.5	9376.0	11130.7	15332.9	10890.9	9635.3
77.5°	7195.3	8399.5	12332.4	7442.5	6686.2	6771.9	6634.9	7564.9	11953.1	7834.1	7139.0
80°	5739.2	6218.8	7971.1	4963.3	4978.0	5178.7	5149.3	5173.8	7863.5	5673.1	5337.8
82.5°	4123.9	4721.0	6093.9	3803.2	3291.8	3504.6	3546.2	3837.5	5548.1	4011.2	3519.3
85°	2114.5	2878.1	5606.9	3294.1	2058.2	1705.9	1962.9	3027.5	4818.9	2403.3	1715.6
87.5°	411.2	797.8	4109.1	1830.6	925.1	467.4	771.0	1282.3	2802.3	435.6	212.9
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°	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6
2.5°	12444.9	12131.7	11838.0	11534.5	11299.6	11013.3	10731.8	10487.0	10249.6	10093.1	10142.0
5°	12141.4	11377.9	10692.6	10056.3	9684.3	9236.4	8837.6	8502.2	8242.7	8076.3	8176.8
7.5°	10758.6	9725.9	8822.8	7983.3	7454.8	6874.7	6409.7	6081.7	5881.1	5768.5	5932.4
10°	9344.1	8184.1	7170.8	6297.1	5775.8	5283.9	4862.9	4515.4	4246.3	4119.0	4185.0
12.5°	8330.9	7041.1	5979.0	5391.6	4943.8	4503.2	4067.5	3661.3	3318.6	3162.1	3130.2
15°	7951.6	6426.8	5342.7	4686.7	4241.3	3761.6	3291.8	2856.1	2530.6	2395.9	2366.7
17.5°	8118.0	6294.7	4965.8	4189.9	3543.9	2961.4	2432.6	2021.6	1781.7	1705.9	1713.1
20°	8702.9	6343.6	4662.3	3678.4	2880.6	2190.4	1661.8	1377.9	1275.0	1257.9	1277.6
22.5°	9505.7	6544.3	4442.1	3237.9	2295.6	1593.2	1235.9	1101.4	1074.4	1072.0	1091.5
25°	10565.4	6935.9	4295.2	2846.3	1813.4	1262.8	1076.9	1001.1	979.0	983.9	1003.4
27.5°	11813.5	7432.7	4199.7	2508.6	1490.4	1125.8	1005.8	939.8	917.8	922.7	937.3
30°	12954.0	7868.3	4057.8	2254.0	1338.8	1076.9	966.7	900.7	871.3	871.3	881.0
32.5°	13974.6	8245.2	3891.4	2063.2	1199.2	966.7	876.1	824.8	802.7	810.0	815.0
35°	14880.1	8443.4	3761.6	1950.6	1086.7	890.9	800.4	746.5	717.1	721.9	729.3
37.5°	15770.9	8519.4	3675.9	1889.4	1005.8	844.3	761.1	717.1	685.3	680.3	678.0
40°	16617.8	8502.2	3595.1	1872.2	952.0	810.0	736.6	697.5	665.7	658.4	655.9
42.5°	17349.5	8446.0	3519.3	1825.7	915.4	785.6	717.1	682.9	650.9	641.3	636.3
45°	18017.6	8411.7	3436.1	1740.1	934.9	775.8	707.4	670.7	641.3	629.0	624.1
47.5°	18759.2	8534.0	3343.2	1647.1	930.1	778.3	707.4	665.7	636.3	624.1	619.2
50°	19642.7	8947.7	3228.1	1519.8	886.0	832.1	704.8	658.4	631.4	624.1	614.2
52.5°	20890.9	9618.2	3069.0	1355.8	851.6	888.4	702.4	646.2	624.1	611.9	599.7
55°	22601.6	10288.8	2863.4	1182.0	797.8	849.3	707.4	631.4	606.9	594.7	580.0
57.5°	24003.9	10797.9	2603.9	1037.8	748.9	802.7	700.0	614.2	587.4	575.1	562.9
60°	23913.3	10846.8	2356.8	944.6	719.6	721.9	717.1	602.0	570.3	560.5	550.6
62.5°	22432.7	10242.3	2126.7	898.2	697.5	658.4	731.8	587.4	553.1	543.3	536.0
65°	19968.2	8835.0	2004.4	898.2	678.0	624.1	638.7	567.8	536.0	526.2	521.2
67.5°	16842.9	7099.8	1889.4	917.8	650.9	599.7	580.0	548.3	518.9	509.0	504.1
70°	13499.7	5587.4	1808.6	908.0	626.5	572.7	548.3	521.2	491.8	489.5	484.6
72.5°	10589.9	4488.5	1771.8	908.0	589.8	540.9	516.4	496.8	467.4	465.0	457.7
75°	8485.1	3370.1	1620.2	890.9	553.1	499.4	477.3	460.1	430.7	433.2	428.3
77.5°	6571.2	2383.7	1353.4	802.7	506.6	452.8	435.6	423.4	389.2	391.5	391.5
80°	5139.5	1551.6	1050.0	665.7	452.8	398.9	386.7	377.0	340.3	345.0	345.0
82.5°	3521.8	922.7	761.1	536.0	389.2	340.3	337.7	323.1	283.8	286.4	291.2
85°	1923.6	606.9	506.6	396.5	305.9	276.5	271.6	264.3	227.6	227.6	230.1
87.5°	354.9	325.5	298.6	261.9	205.6	198.2	190.8	198.2	171.3	166.4	166.4
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°	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6
2.5°	10026.9	9858.0	9740.6	9637.8	9390.7	9407.8	9441.9	9491.0	9336.8	9417.5	9517.9
5°	8076.3	7936.9	7831.6	7667.7	7322.5	7200.1	7121.8	7087.6	6857.5	6906.5	7014.2
7.5°	5954.5	5952.0	5915.3	5731.7	5315.7	5063.6	4897.2	4845.8	4703.8	4757.7	4921.7
10°	4192.4	4236.4	4219.3	4055.2	3683.3	3502.2	3465.4	3568.3	3570.7	3675.9	3957.4
12.5°	3029.9	3005.4	2983.4	2848.7	2569.8	2540.4	2623.7	2765.6	2799.8	2912.5	3206.1
15°	2261.3	2202.6	2190.4	2085.2	1901.6	1928.5	1989.7	2063.2	2065.5	2143.8	2386.2
17.5°	1696.0	1696.0	1715.6	1647.1	1514.9	1502.7	1470.8	1451.3	1421.9	1453.7	1585.9
20°	1316.7	1377.9	1426.8	1387.7	1267.7	1209.0	1147.9	1108.7	1086.7	1089.1	1128.2
22.5°	1128.2	1177.2	1240.8	1221.2	1120.9	1045.1	1005.8	979.0	961.8	961.8	983.9
25°	1032.8	1064.6	1123.4	1113.6	1027.9	966.7	934.9	908.0	888.4	886.0	908.0
27.5°	956.9	976.6	1015.7	1010.7	922.7	883.5	863.9	846.8	834.5	832.1	854.2
30°	888.4	898.2	917.8	910.4	844.3	805.2	797.8	790.5	783.2	785.6	817.5
32.5°	827.2	834.5	846.8	837.0	773.3	739.1	726.9	717.1	709.7	717.1	753.8
35°	758.7	780.7	795.4	790.5	721.9	680.3	653.5	629.0	619.2	626.5	668.1
37.5°	700.0	736.6	756.3	751.3	680.3	631.4	597.2	592.3	592.3	602.0	643.6
40°	678.0	704.8	721.9	714.7	643.6	594.7	575.1	567.8	570.3	580.0	624.1
42.5°	658.4	682.9	687.7	673.0	602.0	570.3	558.0	548.3	553.1	565.3	609.4
45°	641.3	660.8	658.4	636.3	567.8	545.8	545.8	538.4	540.9	550.6	597.2
47.5°	629.0	638.7	633.9	611.9	543.3	526.2	533.5	533.5	538.4	545.8	592.3
50°	609.4	616.8	611.9	592.3	523.8	509.0	516.4	526.2	531.1	538.4	580.0
52.5°	589.8	594.7	592.3	572.7	504.1	494.4	494.4	504.1	513.9	523.8	560.5
55°	570.3	575.1	577.6	562.9	489.5	479.6	477.3	477.3	487.1	501.7	540.9
57.5°	555.6	555.6	560.5	550.6	474.8	462.6	450.3	452.8	465.0	477.3	516.4
60°	538.4	540.9	548.3	538.4	455.2	435.6	425.9	438.1	442.9	455.2	496.8
62.5°	523.8	523.8	528.6	521.2	438.1	418.5	411.2	423.4	423.4	435.6	477.3
65°	511.6	509.0	509.0	506.6	420.9	401.4	396.5	401.4	403.8	416.1	457.7
67.5°	501.7	489.5	489.5	494.4	403.8	384.3	381.8	381.8	384.3	398.9	435.6
70°	479.6	470.0	467.4	484.6	386.7	362.2	362.2	357.3	362.2	369.6	408.7
72.5°	455.2	447.9	445.4	470.0	369.6	337.7	332.8	330.4	332.8	340.3	377.0
75°	423.4	418.5	423.4	460.1	352.5	310.9	303.5	301.0	301.0	303.5	342.6
77.5°	386.7	381.8	418.5	428.3	342.6	279.0	271.6	266.8	261.9	261.9	305.9
80°	342.6	340.3	403.8	362.2	328.0	244.7	232.5	225.2	220.2	217.9	261.9
82.5°	298.6	293.7	345.0	283.8	271.6	200.7	183.5	169.0	161.4	161.4	200.7
85°	244.7	242.3	271.6	208.0	188.5	146.9	122.4	110.2	100.3	100.3	129.7
87.5°	178.6	173.7	169.0	124.8	95.5	66.1	46.6	44.0	39.2	36.7	53.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196704

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CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6	11507.6
2.5°	9667.1	9870.3	10254.5	10570.3	10991.2	11329.0	11713.1	11879.6
5°	7212.4	7533.1	8120.3	8622.0	9317.2	9960.8	10695.1	11096.5
7.5°	5173.8	5648.6	6093.9	6720.5	7589.3	8453.3	9402.9	9934.0
10°	4280.4	4716.0	5097.9	5543.4	6213.9	7185.6	8318.7	8918.3
12.5°	3546.2	4016.2	4420.0	4897.2	5460.1	6338.6	7631.0	8328.4
15°	2719.0	3230.6	3715.2	4290.3	4980.5	5983.8	7425.4	8203.6
17.5°	1862.5	2410.7	3007.8	3710.2	4542.4	5834.6	7621.2	8580.5
20°	1265.3	1666.6	2315.2	3147.3	4148.3	5763.5	8051.9	9356.3
22.5°	1040.1	1221.2	1708.3	2618.7	3825.2	5841.9	8751.8	10376.9
25°	954.5	1052.3	1328.9	2153.7	3578.0	6049.9	9699.0	11529.6
27.5°	900.7	983.9	1164.9	1820.8	3350.4	6333.9	10851.7	12939.3
30°	868.8	947.2	1098.9	1649.5	3142.4	6578.6	11842.9	14001.5
32.5°	797.8	856.6	981.3	1551.6	2993.1	6776.8	12716.5	14995.1
35°	712.2	783.2	886.0	1488.0	2988.2	6869.7	13539.0	16094.0
37.5°	680.3	748.9	824.8	1453.7	3017.6	6948.2	14544.8	17339.7
40°	660.8	721.9	783.2	1448.9	3042.1	7009.3	15528.7	18636.8
42.5°	643.6	704.8	775.8	1414.6	3032.3	7092.6	16400.0	19750.4
45°	638.7	700.0	793.0	1363.2	3029.9	7222.2	17092.5	20641.3
47.5°	633.9	726.9	788.1	1306.8	3020.0	7496.4	17873.2	21470.9
50°	629.0	775.8	753.8	1228.6	2946.6	7963.8	18923.1	22420.4
52.5°	626.5	783.2	717.1	1120.9	2814.5	8656.4	20460.1	23742.0
55°	616.8	744.0	653.5	979.0	2623.7	9402.9	22107.2	25296.1
57.5°	594.7	663.2	616.8	839.4	2349.5	9924.1	23323.6	26497.8
60°	648.6	570.3	592.3	768.5	2021.6	10017.1	23377.4	26835.6
62.5°	619.2	518.9	567.8	744.0	1791.6	9410.2	22307.9	26431.8
65°	494.4	491.8	545.8	768.5	1757.2	8051.9	20501.7	25234.9
67.5°	450.3	472.3	523.8	797.8	1779.3	6343.6	17843.9	22440.1
70°	420.9	447.9	494.4	824.8	1818.4	4997.5	14366.2	18250.1
72.5°	391.5	413.6	465.0	851.6	1791.6	3942.7	11497.8	14057.8
75°	354.9	374.4	423.4	780.7	1537.0	2897.7	9136.0	9982.9
77.5°	313.2	330.4	372.0	616.8	1155.2	2016.6	6842.9	7195.3
80°	269.3	276.5	308.3	450.3	753.8	1206.5	5208.1	5739.2
82.5°	212.9	215.3	234.9	330.4	470.0	771.0	3612.3	4123.9
85°	137.0	141.9	151.8	232.5	315.8	494.4	1845.3	2114.5
87.5°	46.6	53.9	53.9	112.5	154.2	274.1	565.3	411.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)