

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: P196703

Luminaire Tested: **NAV-AF-05-D-UNV-SLL-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196703
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-SLL-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 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: 28176.8 lumens
Efficiency: N/A
Efficacy: 88.1 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 - G5

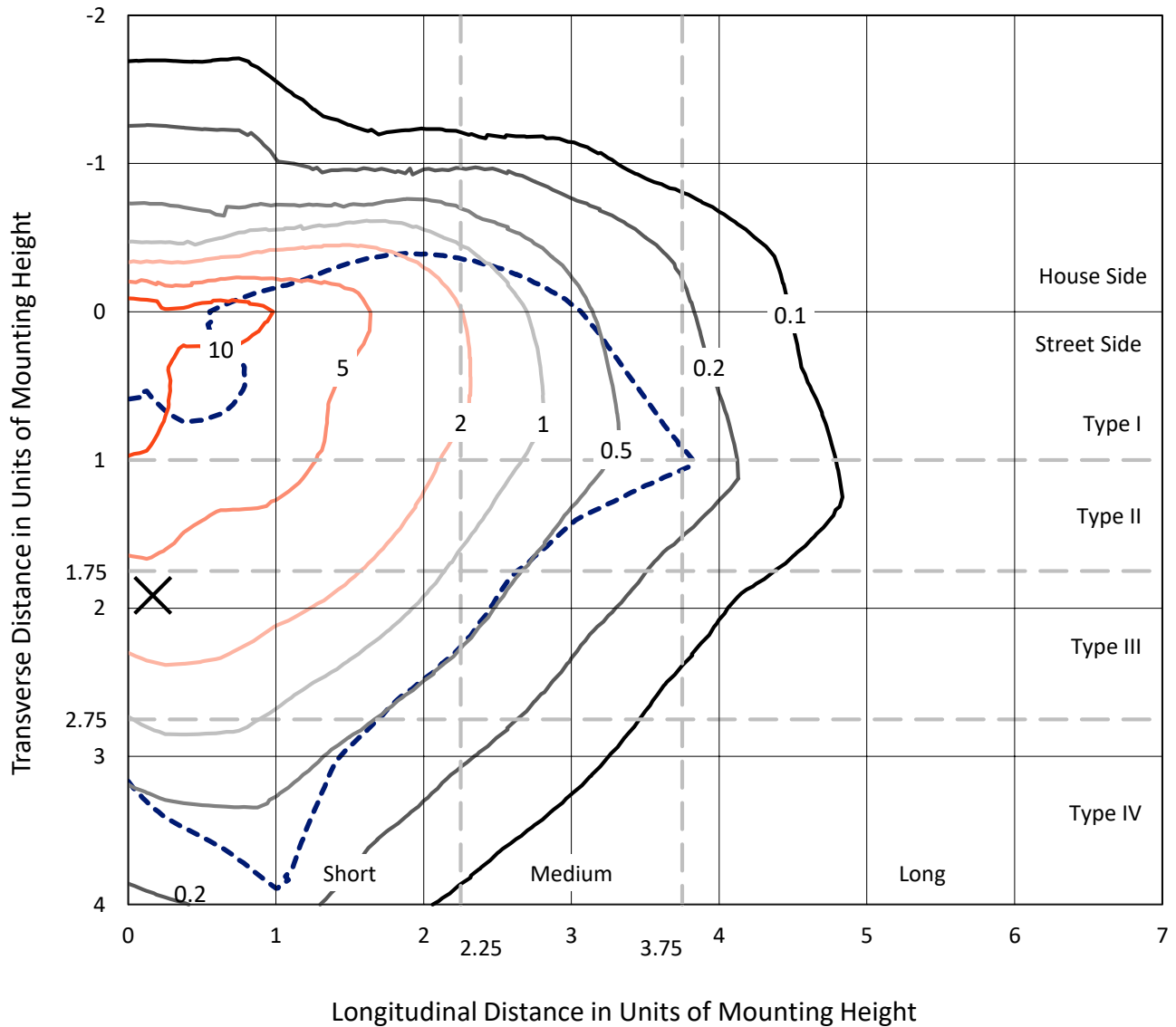
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

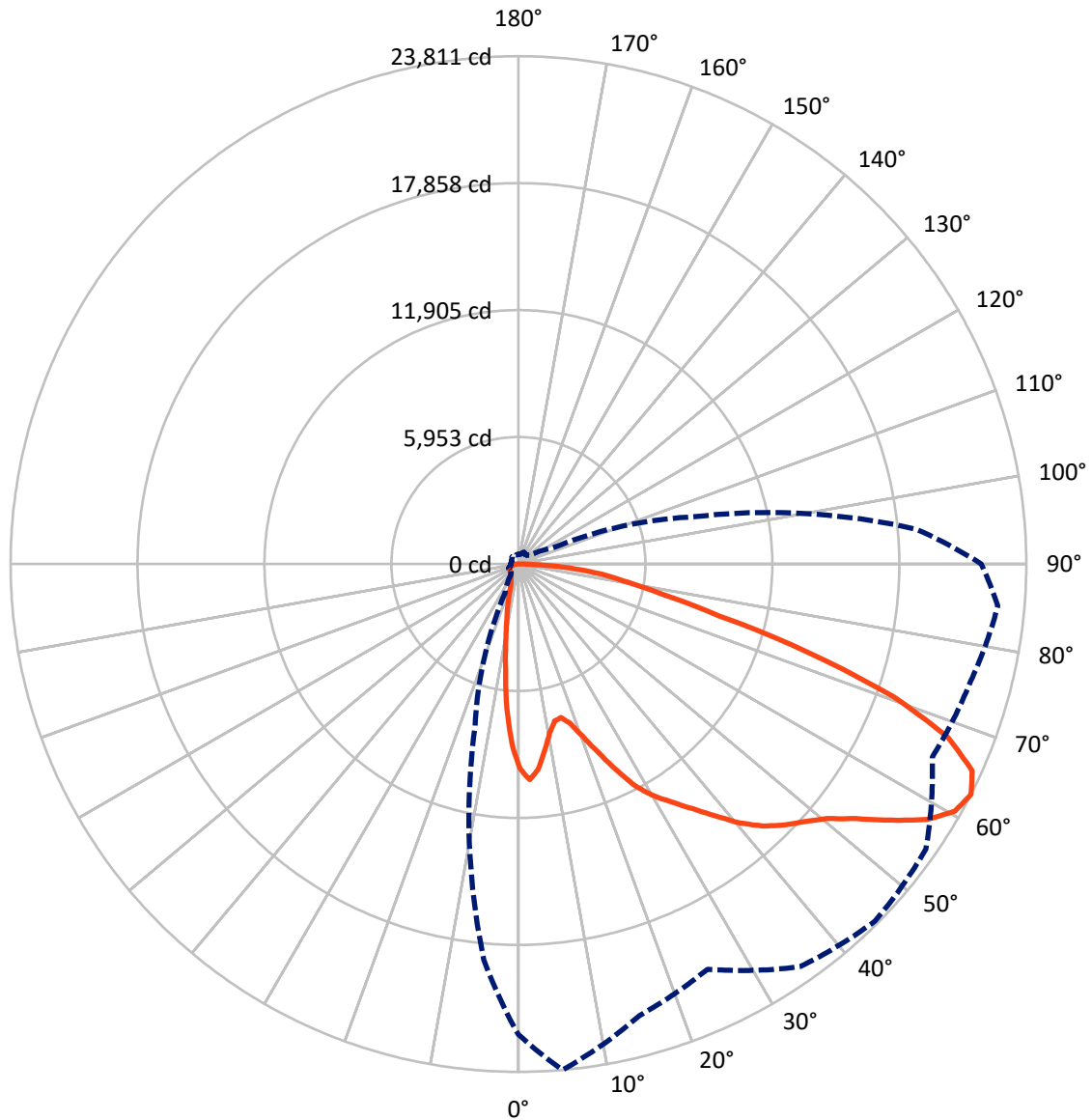
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 17.6 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	4991.6	0.0	4991.6
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	23185.3	0.0	23185.3
	% Fixture	82.3	0.0	82.3
Total	Lumens	28176.8	0.0	28176.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	698.6	2.5
10°-20°	1276.0	4.5
20°-30°	1835.2	6.5
30°-40°	2810.8	10.0
40°-50°	4109.4	14.6
50°-60°	5979.3	21.2
60°-70°	6927.8	24.6
70°-80°	3611.4	12.8
80°-90°	928.3	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°	28176.8	100.0
0°-180°	28176.8	100.0



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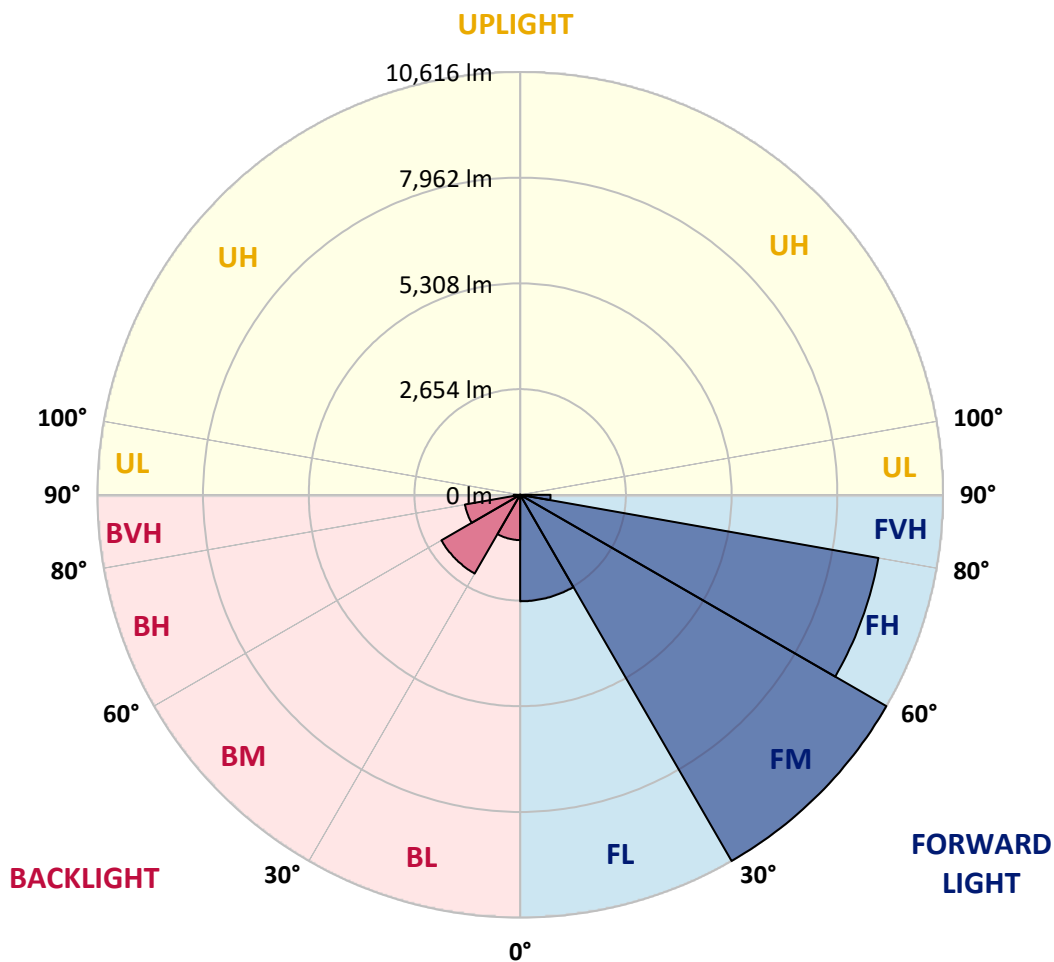
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2674.1	9.5			
FM	(30°-60°)	10615.7	37.7			
FH	(60°-80°)	9131.7	32.4			G4/12000
FVH	(80°-90°)	763.7	2.7			G5
BL	(0°-30°)	1135.7	4.0	B3/2500		
BM	(30°-60°)	2283.8	8.1	B2/2500		
BH	(60°-80°)	1407.5	5.0	B3/2500		G3/2500
BVH	(80°-90°)	164.6	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°	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1
2.5°	9916.6	10127.0	10368.0	10682.8	10897.2	10983.1	11054.6	10934.0	10817.5	10598.9	10521.3
5°	9262.9	9667.4	10331.3	10962.6	11518.3	11836.9	11935.1	11712.4	11316.0	10744.0	10441.6
7.5°	8292.4	8825.6	9759.2	10688.9	11485.6	12016.8	12055.5	11614.3	10833.9	9896.1	9405.8
10°	7444.6	8047.3	9127.9	10167.8	11011.5	11555.0	11448.8	10829.8	9888.0	8821.6	8267.8
12.5°	6952.2	7554.9	8656.1	9712.3	10507.0	10713.3	10496.7	9975.8	9083.0	8014.6	7456.8
15°	6848.1	7469.1	8488.6	9379.3	9871.7	9738.9	9524.3	9260.9	8625.5	7751.1	7211.6
17.5°	7162.7	7857.3	8711.2	9199.5	9179.1	8860.4	8680.5	8731.7	8623.4	8037.0	7473.3
20°	7810.3	8631.6	9277.1	9150.5	8627.4	8180.0	8075.9	8476.4	8976.8	8754.2	8135.1
22.5°	8662.2	9597.9	10049.3	9291.4	8339.4	7857.3	7836.8	8462.0	9620.4	9838.9	9085.1
25°	9624.4	10715.4	10827.7	9540.6	8308.7	7828.7	7810.3	8682.7	10394.6	10913.6	10149.5
27.5°	10801.2	11843.1	11477.4	9873.6	8443.5	7912.4	7924.7	9058.5	11201.6	11975.9	11348.8
30°	11687.8	12643.9	11877.8	10200.6	8660.1	8059.5	8090.2	9465.1	11636.7	12713.4	12306.9
32.5°	12517.3	13328.3	12261.9	10523.3	8976.8	8278.1	8384.3	9971.8	12159.8	13346.8	13211.8
35°	13434.6	14094.5	12689.0	10868.6	9430.3	8662.2	8815.5	10453.9	12678.7	13980.0	14108.7
37.5°	14474.4	14970.9	13152.6	11356.9	10084.1	9373.2	9459.0	10946.2	13040.3	14680.8	15071.0
40°	15557.2	15953.6	13659.3	12008.5	11034.1	10333.3	10374.1	11577.5	13324.2	15406.1	16004.7
42.5°	16486.7	16795.3	14167.9	12817.6	12125.0	11311.9	11346.7	12257.8	13596.0	16031.2	16752.4
45°	17230.4	17457.2	14648.1	13669.5	13289.5	12533.6	12525.5	12950.4	13959.6	16558.2	17326.5
47.5°	17923.0	18043.5	15183.3	14498.9	14496.9	14106.7	13814.6	13767.5	14443.8	17001.7	17827.0
50°	18715.7	18760.6	15890.2	15336.6	15971.9	15910.7	15371.3	14805.4	15071.0	17500.0	18352.1
52.5°	19818.9	19820.9	16766.7	16153.8	17600.2	17794.3	17167.2	15980.1	15998.5	18470.5	19259.1
55°	21116.2	21206.0	17908.6	17132.4	19304.0	19635.0	19044.6	17375.5	17330.4	20035.4	20730.1
57.5°	22119.2	22595.3	19238.7	18356.1	20895.5	21326.7	20850.6	18821.9	18967.0	21649.4	21943.5
60°	22401.2	23514.6	20564.6	19729.0	22241.8	22889.5	22405.2	20384.8	20568.6	22697.4	22292.9
62.5°	22064.2	23810.9	21915.0	20958.8	23040.6	23661.7	23314.4	21408.3	21874.1	22562.6	21702.5
65°	21065.0	23381.8	23087.7	21481.9	22580.9	22801.7	22709.6	21461.5	22583.1	21287.7	20070.2
67.5°	18732.1	21727.0	22564.7	20364.4	20433.7	20196.8	20076.3	20002.7	21786.3	19230.5	17496.0
70°	15234.4	18668.7	20070.2	17042.5	16527.6	16298.9	15902.4	16883.2	19581.9	16384.6	14398.8
72.5°	11734.9	14282.4	16462.3	12919.8	11849.2	11926.8	11477.4	12909.5	16221.1	12666.4	10993.2
75°	8333.3	9738.9	13140.4	9283.2	7865.5	7861.3	7826.7	9291.4	12799.1	9091.3	8043.2
77.5°	6006.3	7011.5	10294.5	6212.7	5581.4	5652.8	5538.5	6314.8	9977.9	6539.6	5959.3
80°	4790.8	5191.2	6654.0	4143.1	4155.4	4323.0	4298.4	4318.8	6564.1	4735.7	4455.7
82.5°	3442.4	3940.9	5087.0	3174.7	2747.8	2925.5	2960.3	3203.4	4631.4	3348.5	2937.8
85°	1765.1	2402.5	4680.4	2749.8	1718.1	1423.9	1638.5	2527.1	4022.6	2006.2	1432.2
87.5°	343.2	666.1	3430.2	1528.1	772.3	390.2	643.5	1070.5	2339.2	363.7	177.8
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°	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1
2.5°	10388.5	10127.0	9881.9	9628.6	9432.4	9193.4	8958.3	8754.2	8556.0	8425.2	8466.1
5°	10135.2	9497.8	8925.7	8394.6	8084.1	7710.2	7377.1	7097.3	6880.7	6741.9	6825.5
7.5°	8980.9	8118.7	7364.9	6664.2	6222.9	5738.8	5350.5	5076.8	4909.2	4815.3	4952.1
10°	7800.0	6831.7	5985.9	5256.6	4821.4	4410.8	4059.4	3769.3	3544.6	3438.3	3493.4
12.5°	6954.3	5877.6	4991.0	4500.7	4126.8	3759.1	3395.4	3056.3	2770.3	2639.4	2612.9
15°	6637.6	5364.8	4459.9	3912.2	3540.4	3140.0	2747.8	2384.1	2112.4	2000.1	1975.5
17.5°	6776.6	5254.5	4145.2	3497.6	2958.2	2472.0	2030.7	1687.5	1487.2	1423.9	1430.1
20°	7264.7	5295.4	3891.9	3070.6	2404.6	1828.5	1387.1	1150.2	1064.4	1050.1	1066.5
22.5°	7935.0	5462.9	3708.0	2702.8	1916.3	1330.0	1031.7	919.3	896.9	894.9	911.1
25°	8819.5	5789.7	3585.5	2376.0	1513.9	1054.2	898.8	835.7	817.1	821.3	837.6
27.5°	9861.4	6204.5	3505.7	2094.1	1244.1	939.7	839.6	784.5	766.1	770.2	782.4
30°	10813.5	6568.1	3387.2	1881.6	1117.5	898.8	807.0	751.8	727.3	727.3	735.5
32.5°	11665.4	6882.8	3248.3	1722.3	1001.1	807.0	731.4	688.5	670.1	676.2	680.3
35°	12421.2	7048.2	3140.0	1628.3	907.1	743.6	668.0	623.1	598.6	602.7	608.8
37.5°	13164.8	7111.5	3068.5	1577.1	839.6	704.8	635.4	598.6	572.1	567.9	565.9
40°	13871.8	7097.3	3001.2	1562.9	794.8	676.2	614.9	582.3	555.7	549.6	547.5
42.5°	14482.7	7050.3	2937.8	1524.0	764.0	655.8	598.6	570.0	543.4	535.3	531.2
45°	15040.4	7021.6	2868.4	1452.6	780.4	647.6	590.4	559.7	535.3	525.0	520.9
47.5°	15659.4	7123.8	2790.7	1374.9	776.3	649.6	590.4	555.7	531.2	520.9	516.9
50°	16396.9	7469.1	2694.7	1268.7	739.5	694.6	588.4	549.6	527.0	520.9	512.8
52.5°	17438.8	8028.9	2561.9	1131.8	710.9	741.7	586.2	539.3	520.9	510.8	500.5
55°	18866.9	8588.7	2390.3	986.7	666.1	708.9	590.4	527.0	506.6	496.5	484.2
57.5°	20037.5	9013.6	2173.7	866.2	625.2	670.1	584.3	512.8	490.3	480.0	470.0
60°	19961.8	9054.5	1967.4	788.7	600.6	602.7	598.6	502.6	476.1	467.8	459.7
62.5°	18725.8	8549.9	1775.4	749.7	582.3	549.6	610.9	490.3	461.7	453.5	447.4
65°	16668.6	7375.1	1673.2	749.7	565.9	520.9	533.1	473.9	447.4	439.2	435.2
67.5°	14059.7	5926.7	1577.1	766.1	543.4	500.5	484.2	457.6	433.1	424.9	420.8
70°	11269.0	4664.1	1509.8	757.9	523.1	478.0	457.6	435.2	410.6	408.6	404.5
72.5°	8839.9	3746.8	1479.2	757.9	492.3	451.5	431.0	414.7	390.2	388.2	382.1
75°	7082.9	2813.2	1352.4	743.6	461.7	416.8	398.4	384.0	359.6	361.6	357.5
77.5°	5485.4	1989.8	1129.7	670.1	423.0	377.9	363.7	353.5	324.8	326.9	326.9
80°	4290.3	1295.3	876.5	555.7	377.9	333.0	322.8	314.6	284.0	288.0	288.0
82.5°	2939.8	770.2	635.4	447.4	324.8	284.0	281.9	269.7	237.0	239.1	243.1
85°	1605.8	506.6	423.0	330.9	255.3	230.9	226.8	220.6	190.0	190.0	192.1
87.5°	296.2	271.7	249.2	218.6	171.6	165.5	159.3	165.5	143.0	138.9	138.9
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°	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1
2.5°	8370.1	8229.1	8131.1	8045.2	7839.0	7853.2	7881.8	7922.6	7793.9	7861.3	7945.2
5°	6741.9	6625.4	6537.5	6400.6	6112.6	6010.5	5945.1	5916.5	5724.4	5765.3	5855.2
7.5°	4970.5	4968.4	4937.9	4784.7	4437.3	4226.9	4087.9	4045.1	3926.6	3971.6	4108.3
10°	3499.6	3536.4	3522.1	3385.2	3074.7	2923.4	2892.8	2978.6	2980.7	3068.5	3303.5
12.5°	2529.3	2508.8	2490.3	2378.0	2145.1	2120.6	2190.1	2308.5	2337.2	2431.1	2676.3
15°	1887.7	1838.8	1828.5	1740.6	1587.4	1609.8	1661.0	1722.3	1724.2	1789.6	1991.9
17.5°	1415.8	1415.8	1432.2	1374.9	1264.5	1254.4	1227.8	1211.4	1187.0	1213.6	1323.9
20°	1099.1	1150.2	1191.0	1158.3	1058.2	1009.2	958.2	925.4	907.1	909.1	941.9
22.5°	941.9	982.7	1035.8	1019.4	935.7	872.3	839.6	817.1	802.8	802.8	821.3
25°	862.2	888.8	937.8	929.6	858.0	807.0	780.4	757.9	741.7	739.5	757.9
27.5°	798.8	815.2	847.9	843.7	770.2	737.5	721.2	706.9	696.6	694.6	713.0
30°	741.7	749.7	766.1	760.0	704.8	672.2	666.1	659.9	653.7	655.8	682.4
32.5°	690.5	696.6	706.9	698.7	645.6	617.0	606.7	598.6	592.5	598.6	629.3
35°	633.3	651.7	664.0	659.9	602.7	567.9	545.4	525.0	516.9	523.1	557.8
37.5°	584.3	614.9	631.3	627.1	567.9	527.0	498.4	494.4	494.4	502.6	537.3
40°	565.9	588.4	602.7	596.5	537.3	496.5	480.0	473.9	476.1	484.2	520.9
42.5°	549.6	570.0	574.0	561.8	502.6	476.1	465.8	457.6	461.7	471.9	508.7
45°	535.3	551.6	549.6	531.2	473.9	455.6	455.6	449.5	451.5	459.7	498.4
47.5°	525.0	533.1	529.2	510.8	453.5	439.2	445.3	445.3	449.5	455.6	494.4
50°	508.7	514.8	510.8	494.4	437.1	424.9	431.0	439.2	443.4	449.5	484.2
52.5°	492.3	496.5	494.4	478.0	420.8	412.7	412.7	420.8	429.1	437.1	467.8
55°	476.1	480.0	482.2	470.0	408.6	400.4	398.4	398.4	406.6	418.8	451.5
57.5°	463.8	463.8	467.8	459.7	396.3	386.1	376.0	377.9	388.2	398.4	431.0
60°	449.5	451.5	457.6	449.5	380.0	363.7	355.5	365.7	369.8	380.0	414.7
62.5°	437.1	437.1	441.3	435.2	365.7	349.3	343.2	353.5	353.5	363.7	398.4
65°	426.9	424.9	424.9	423.0	351.4	335.1	330.9	335.1	337.1	347.3	382.1
67.5°	418.8	408.6	408.6	412.7	337.1	320.7	318.7	318.7	320.7	333.0	363.7
70°	400.4	392.2	390.2	404.5	322.8	302.3	302.3	298.3	302.3	308.4	341.2
72.5°	380.0	373.8	371.8	392.2	308.4	281.9	277.8	275.8	277.8	284.0	314.6
75°	353.5	349.3	353.5	384.0	294.2	259.5	253.4	251.3	251.3	253.4	286.0
77.5°	322.8	318.7	349.3	357.5	286.0	232.9	226.8	222.7	218.6	218.6	255.3
80°	286.0	284.0	337.1	302.3	273.8	204.4	194.1	187.9	183.9	181.8	218.6
82.5°	249.2	245.2	288.0	237.0	226.8	167.5	153.2	141.0	134.8	134.8	167.5
85°	204.4	202.2	226.8	173.6	157.4	122.6	102.1	91.9	83.8	83.8	108.2
87.5°	149.1	145.1	141.0	104.3	79.6	55.1	38.8	36.8	32.7	30.6	44.9
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: P196703

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CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1	9606.1
2.5°	8069.8	8239.3	8560.0	8823.6	9174.9	9456.9	9777.7	9916.6
5°	6020.6	6288.3	6778.6	7197.4	7777.6	8314.8	8927.8	9262.9
7.5°	4318.8	4715.2	5087.0	5610.0	6335.3	7056.4	7849.0	8292.4
10°	3573.1	3936.8	4255.5	4627.3	5187.1	5998.2	6944.1	7444.6
12.5°	2960.3	3352.5	3689.5	4087.9	4557.9	5291.3	6370.1	6952.2
15°	2269.8	2696.7	3101.3	3581.3	4157.5	4995.2	6198.4	6848.1
17.5°	1554.6	2012.3	2510.8	3097.2	3791.8	4870.4	6361.8	7162.7
20°	1056.2	1391.3	1932.7	2627.2	3462.9	4811.2	6721.4	7810.3
22.5°	868.3	1019.4	1426.0	2186.0	3193.2	4876.6	7305.6	8662.2
25°	796.7	878.5	1109.3	1797.9	2986.8	5050.2	8096.3	9624.4
27.5°	751.8	821.3	972.4	1520.1	2796.8	5287.2	9058.5	10801.2
30°	725.3	790.6	917.3	1377.0	2623.2	5491.5	9886.0	11687.8
32.5°	666.1	715.0	819.2	1295.3	2498.5	5657.0	10615.3	12517.3
35°	594.5	653.7	739.5	1242.2	2494.5	5734.6	11301.8	13434.6
37.5°	567.9	625.2	688.5	1213.6	2519.0	5800.0	12141.4	14474.4
40°	551.6	602.7	653.7	1209.4	2539.4	5851.1	12962.6	15557.2
42.5°	537.3	588.4	647.6	1180.9	2531.2	5920.5	13689.9	16486.7
45°	533.1	584.3	661.9	1137.9	2529.3	6028.8	14268.1	17230.4
47.5°	529.2	606.7	657.8	1091.0	2521.0	6257.6	14919.8	17923.0
50°	525.0	647.6	629.3	1025.6	2459.8	6647.9	15796.2	18715.7
52.5°	523.1	653.7	598.6	935.7	2349.4	7226.0	17079.3	19818.9
55°	514.8	621.0	545.4	817.1	2190.1	7849.0	18454.2	21116.2
57.5°	496.5	553.6	514.8	700.8	1961.2	8284.2	19469.6	22119.2
60°	541.4	476.1	494.4	641.5	1687.5	8361.9	19514.5	22401.2
62.5°	516.9	433.1	473.9	621.0	1495.4	7855.2	18621.7	22064.2
65°	412.7	410.6	455.6	641.5	1466.8	6721.4	17114.0	21065.0
67.5°	376.0	394.3	437.1	666.1	1485.3	5295.4	14895.4	18732.1
70°	351.4	373.8	412.7	688.5	1517.9	4171.7	11992.3	15234.4
72.5°	326.9	345.3	388.2	710.9	1495.4	3291.2	9597.9	11734.9
75°	296.2	312.6	353.5	651.7	1283.0	2418.9	7626.4	8333.3
77.5°	261.4	275.8	310.6	514.8	964.3	1683.3	5712.2	6006.3
80°	224.7	230.9	257.5	376.0	629.3	1007.2	4347.4	4790.8
82.5°	177.8	179.7	196.1	275.8	392.2	643.5	3015.4	3442.4
85°	114.4	118.5	126.6	194.1	263.6	412.7	1540.4	1765.1
87.5°	38.8	44.9	44.9	94.0	128.7	228.8	471.9	343.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)