

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: P196698

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196698
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 3000K, 1050mA 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: 30770.7 lumens
Efficiency: N/A
Efficacy: 92.4 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

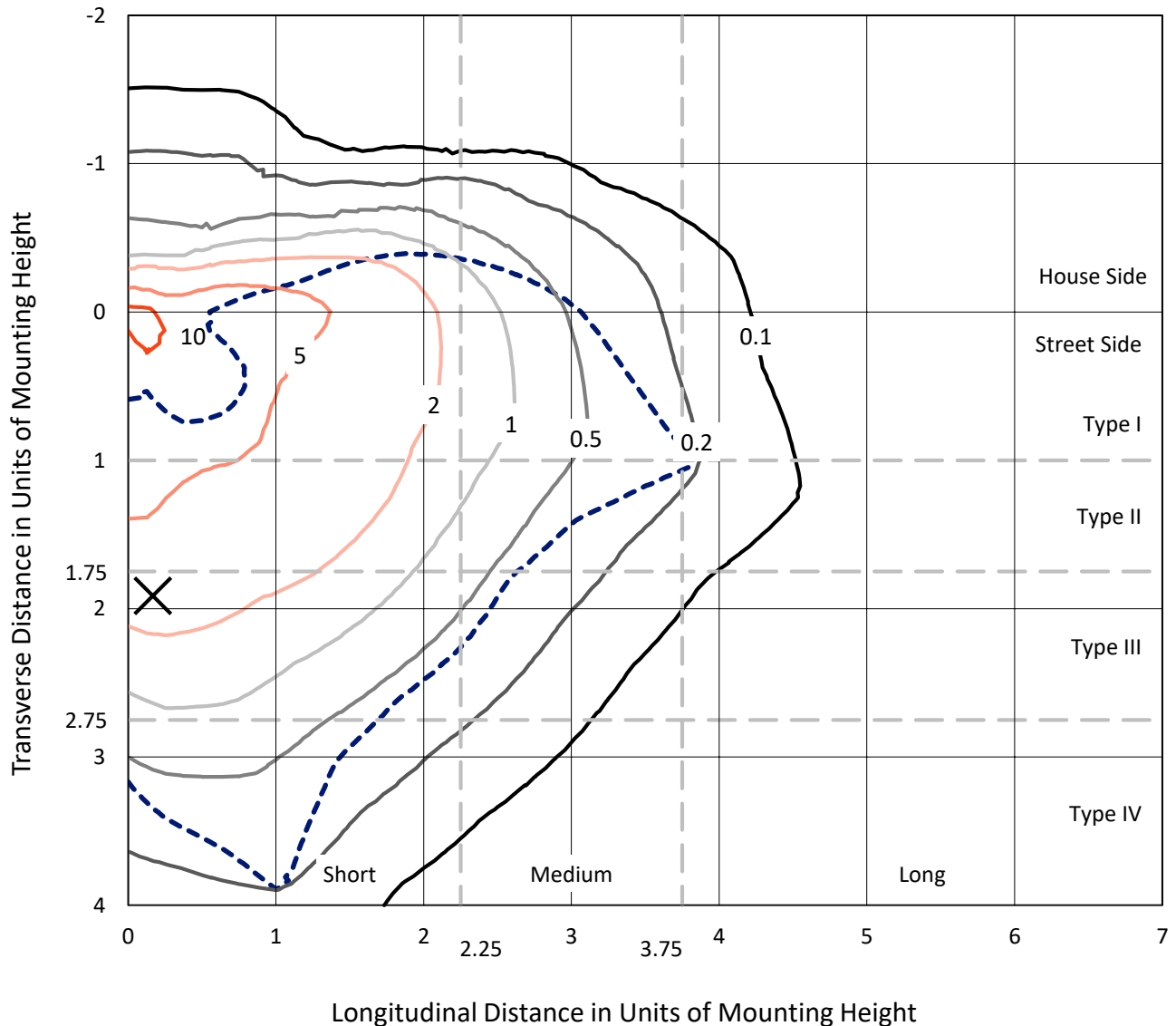
Input Watts (W): 333
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

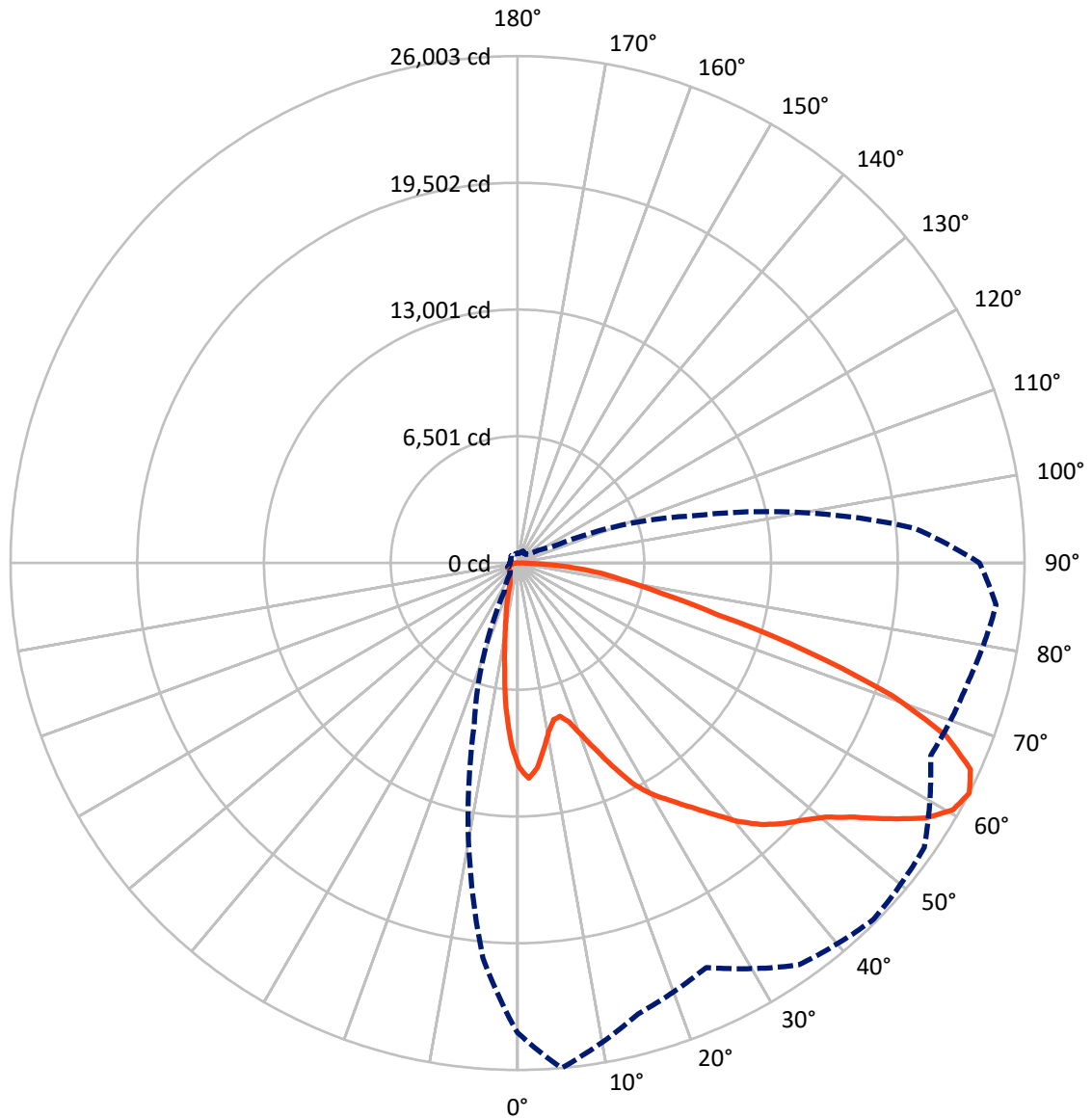
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 13.4 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	5451.1	0.0	5451.1
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	25319.6	0.0	25319.6
	% Fixture	82.3	0.0	82.3
Total	Lumens	30770.7	0.0	30770.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	762.9	2.5
10°-20°	1393.4	4.5
20°-30°	2004.1	6.5
30°-40°	3069.5	10.0
40°-50°	4487.8	14.6
50°-60°	6529.7	21.2
60°-70°	7565.6	24.6
70°-80°	3943.8	12.8
80°-90°	1013.8	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°	30770.7	100.0
0°-180°	30770.7	100.0



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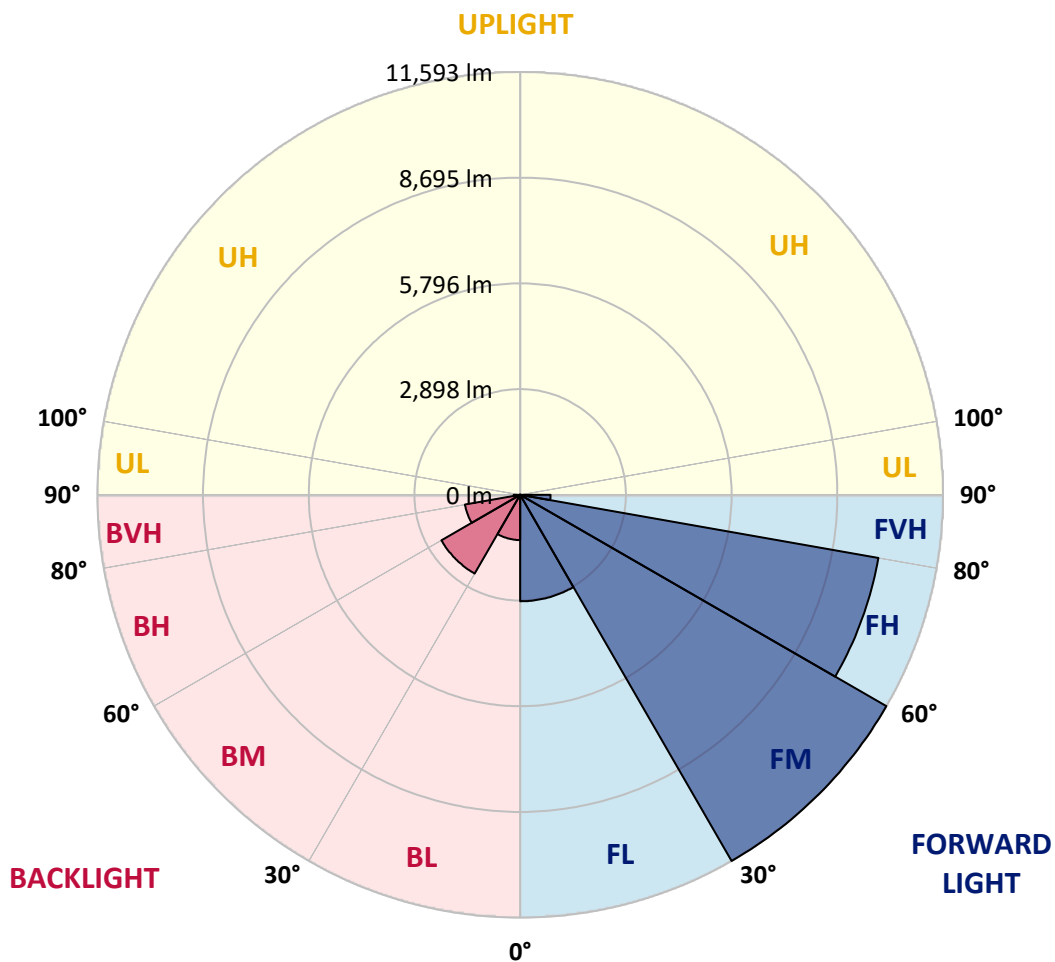
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2920.3	9.5			
FM	(30°-60°)	11593.0	37.7			
FH	(60°-80°)	9972.3	32.4			G4/12000
FVH	(80°-90°)	834.0	2.7			G5
BL	(0°-30°)	1240.2	4.0	B3/2500		
BM	(30°-60°)	2494.1	8.1	B2/2500		
BH	(60°-80°)	1537.0	5.0	B3/2500		G3/2500
BVH	(80°-90°)	179.8	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°	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3
2.5°	10829.4	11059.2	11322.5	11666.0	11900.4	11994.1	12072.2	11940.5	11813.3	11574.6	11489.8
5°	10115.6	10557.2	11282.3	11971.7	12578.6	12926.7	13033.7	12790.6	12357.8	11733.1	11402.9
7.5°	9055.7	9638.1	10657.7	11672.8	12542.9	13122.9	13165.3	12683.5	11831.1	10807.2	10271.7
10°	8129.9	8788.0	9968.3	11103.9	12025.3	12618.8	12502.7	11826.8	10798.2	9633.6	9028.9
12.5°	7592.2	8250.3	9452.9	10606.4	11474.2	11699.6	11463.1	10894.1	9919.2	8752.3	8143.3
15°	7478.5	8156.6	9270.0	10242.7	10780.4	10635.4	10401.1	10113.2	9419.5	8464.6	7875.5
17.5°	7822.0	8580.5	9513.1	10046.4	10024.1	9676.0	9479.7	9535.5	9417.2	8776.9	8161.1
20°	8529.3	9426.2	10131.2	9992.9	9421.7	8933.0	8819.3	9256.6	9803.2	9559.9	8884.0
22.5°	9459.5	10481.5	10974.4	10146.8	9107.1	8580.5	8558.3	9240.9	10506.0	10744.7	9921.4
25°	10510.4	11701.7	11824.5	10419.0	9073.7	8549.3	8529.3	9481.9	11351.5	11918.2	11083.8
27.5°	11795.5	12933.3	12534.0	10782.6	9220.8	8640.8	8654.2	9892.5	12232.7	13078.4	12393.4
30°	12763.7	13807.8	12971.3	11139.5	9457.4	8801.5	8834.9	10336.4	12708.0	13883.8	13439.8
32.5°	13669.5	14555.3	13390.7	11492.1	9803.2	9040.1	9156.2	10889.7	13279.2	14575.4	14428.1
35°	14671.4	15391.9	13857.1	11869.2	10298.4	9459.5	9627.0	11416.2	13845.8	15267.1	15407.5
37.5°	15806.9	16349.0	14363.4	12402.3	11012.4	10236.0	10329.7	11953.9	14240.8	16032.2	16458.4
40°	16989.4	17422.2	14916.7	13114.1	12049.8	11284.7	11329.2	12643.3	14550.8	16824.3	17477.9
42.5°	18004.5	18341.4	15472.2	13997.5	13241.2	12353.3	12391.2	13386.2	14847.6	17506.9	18294.5
45°	18816.5	19064.2	15996.5	14927.9	14512.9	13687.5	13678.5	14142.5	15244.7	18082.5	18921.4
47.5°	19572.9	19704.6	16581.0	15833.7	15831.4	15405.3	15086.3	15034.9	15773.4	18566.7	19468.1
50°	20438.6	20487.6	17353.0	16748.4	17442.2	17375.3	16786.4	16168.3	16458.4	19111.1	20041.4
52.5°	21643.2	21645.6	18310.1	17640.8	19220.4	19432.3	18747.4	17451.2	17471.2	20170.8	21032.0
55°	23060.0	23158.1	19557.3	18709.4	21081.0	21442.4	20797.7	18974.9	18925.9	21879.8	22638.3
57.5°	24155.5	24675.3	21009.7	20045.9	22819.1	23289.8	22769.9	20554.5	20713.0	23642.3	23963.7
60°	24463.3	25679.2	22457.5	21545.2	24289.3	24996.6	24467.7	22261.2	22462.1	24786.9	24345.0
62.5°	24095.2	26002.7	23932.3	22888.1	25161.7	25840.0	25460.5	23379.1	23887.7	24639.6	23700.3
65°	23004.2	25534.2	25213.0	23459.4	24659.7	24900.6	24800.2	23437.1	24661.9	23247.4	21917.7
67.5°	20456.4	23727.1	24641.8	22238.9	22314.9	22056.0	21924.4	21844.1	23791.8	21000.7	19106.6
70°	16636.8	20387.2	21917.7	18611.3	18049.1	17799.2	17366.4	18437.3	21384.5	17893.0	15724.4
72.5°	12815.1	15597.2	17977.7	14109.0	12940.0	13024.8	12534.0	14097.9	17714.4	13832.4	12005.2
75°	9100.4	10635.4	14350.0	10137.8	8589.5	8585.0	8547.2	10146.8	13977.4	9928.2	8783.6
77.5°	6559.3	7656.9	11242.2	6784.6	6095.2	6173.2	6048.4	6896.1	10896.4	7141.5	6507.9
80°	5231.8	5669.0	7266.5	4524.5	4538.0	4720.9	4694.1	4716.4	7168.3	5171.6	4865.9
82.5°	3759.3	4303.7	5555.3	3467.1	3000.7	3194.8	3232.8	3498.3	5057.7	3656.7	3208.2
85°	1927.7	2623.8	5111.2	3003.0	1876.3	1555.1	1789.3	2759.8	4392.9	2190.8	1563.9
87.5°	374.9	727.3	3746.0	1668.8	843.4	426.1	702.7	1169.1	2554.6	397.1	194.2
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°	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3
2.5°	11344.8	11059.2	10791.5	10514.9	10300.8	10039.8	9783.1	9559.9	9343.7	9200.8	9245.4
5°	11068.2	10372.1	9747.4	9167.3	8828.2	8419.9	8056.2	7750.7	7514.1	7362.4	7453.8
7.5°	9807.6	8866.2	8042.9	7277.6	6795.7	6267.0	5843.0	5544.2	5361.2	5258.5	5408.0
10°	8518.1	7460.6	6537.0	5740.5	5265.2	4816.8	4433.0	4116.3	3870.8	3754.8	3815.2
12.5°	7594.5	6418.7	5450.4	4915.0	4506.7	4105.1	3707.9	3337.7	3025.3	2882.5	2853.6
15°	7248.6	5858.7	4870.3	4272.5	3866.3	3429.1	3000.7	2603.6	2306.9	2184.2	2157.5
17.5°	7400.3	5738.2	4526.8	3819.4	3230.6	2699.6	2217.6	1842.8	1624.2	1555.1	1561.8
20°	7933.6	5782.9	4250.0	3353.2	2625.9	1996.8	1514.9	1256.1	1162.4	1146.7	1164.6
22.5°	8665.4	5965.8	4049.3	2951.6	2092.8	1452.4	1126.7	1004.0	979.4	977.3	995.1
25°	9631.4	6322.8	3915.6	2594.7	1653.2	1151.3	981.7	912.6	892.4	896.9	914.7
27.5°	10769.2	6775.7	3828.5	2286.8	1358.7	1026.3	916.9	856.7	836.6	841.1	854.5
30°	11808.8	7172.8	3699.1	2054.8	1220.4	981.7	881.2	821.0	794.2	794.2	803.2
32.5°	12739.2	7516.4	3547.3	1880.8	1093.2	881.2	798.6	751.8	731.8	738.5	743.0
35°	13564.7	7697.1	3429.1	1778.0	990.6	812.2	729.6	680.4	653.7	658.2	664.9
37.5°	14376.8	7766.2	3351.0	1722.4	916.9	769.7	693.9	653.7	624.8	620.3	618.0
40°	15148.8	7750.7	3277.3	1706.7	867.8	738.5	671.5	635.9	606.8	600.2	597.8
42.5°	15815.9	7699.3	3208.2	1664.3	834.4	716.2	653.7	622.4	593.5	584.5	580.0
45°	16425.0	7668.1	3132.4	1586.2	852.2	707.2	644.7	611.3	584.5	573.4	568.9
47.5°	17100.9	7779.6	3047.6	1501.4	847.8	709.4	644.7	606.8	580.0	568.9	564.5
50°	17906.3	8156.6	2942.8	1385.5	807.7	758.6	642.6	600.2	575.6	568.9	560.0
52.5°	19044.1	8767.9	2797.7	1235.9	776.4	809.8	640.3	589.0	568.9	557.8	546.7
55°	20603.7	9379.3	2610.3	1077.7	727.3	774.2	644.7	575.6	553.3	542.2	528.7
57.5°	21882.0	9843.3	2373.8	945.9	682.7	731.8	638.1	560.0	535.5	524.3	513.2
60°	21799.5	9888.0	2148.5	861.2	655.9	658.2	653.7	548.8	519.8	510.9	501.9
62.5°	20449.7	9336.9	1938.8	818.8	635.9	600.2	667.0	535.5	504.2	495.3	488.6
65°	18203.0	8054.0	1827.3	818.8	618.0	568.9	582.4	517.6	488.6	479.6	475.2
67.5°	15353.9	6472.2	1722.4	836.6	593.5	546.7	528.7	499.8	473.0	464.1	459.6
70°	12306.4	5093.4	1648.7	827.7	571.1	522.0	499.8	475.2	448.4	446.3	441.7
72.5°	9653.7	4091.8	1615.3	827.7	537.7	493.1	470.8	452.9	426.1	423.9	417.2
75°	7735.0	3072.2	1476.9	812.2	504.2	455.2	435.1	419.4	392.7	394.9	390.4
77.5°	5990.3	2173.0	1233.7	731.8	461.8	412.8	397.1	386.0	354.8	356.9	356.9
80°	4685.1	1414.5	957.1	606.8	412.8	363.7	352.5	343.6	310.1	314.5	314.5
82.5°	3210.5	841.1	693.9	488.6	354.8	310.1	307.9	294.5	258.8	261.0	265.5
85°	1753.6	553.3	461.8	361.4	278.8	252.1	247.7	240.9	207.5	207.5	209.7
87.5°	323.5	296.7	272.2	238.7	187.4	180.8	174.0	180.8	156.1	151.8	151.8
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°	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3
2.5°	9140.5	8986.6	8879.5	8785.9	8560.5	8576.1	8607.3	8651.9	8511.4	8585.0	8676.5
5°	7362.4	7235.2	7139.3	6989.9	6675.3	6563.7	6492.3	6461.0	6251.4	6295.9	6394.2
7.5°	5428.1	5426.0	5392.4	5225.1	4845.8	4615.9	4464.4	4417.5	4288.1	4337.1	4486.6
10°	3821.8	3861.9	3846.4	3696.8	3357.7	3192.7	3159.1	3252.8	3255.1	3351.0	3607.6
12.5°	2762.1	2739.6	2719.7	2596.9	2342.6	2315.9	2391.6	2521.0	2552.3	2654.9	2922.6
15°	2061.5	2007.9	1996.8	1900.9	1733.5	1758.1	1813.8	1880.8	1883.0	1954.4	2175.3
17.5°	1546.1	1546.1	1563.9	1501.4	1381.0	1369.9	1340.8	1323.0	1296.3	1325.2	1445.7
20°	1200.3	1256.1	1300.7	1265.0	1155.6	1102.1	1046.3	1010.6	990.6	992.8	1028.4
22.5°	1028.4	1073.2	1131.2	1113.3	1021.8	952.6	916.9	892.4	876.8	876.8	896.9
25°	941.5	970.6	1024.1	1015.1	937.0	881.2	852.2	827.7	809.8	807.7	827.7
27.5°	872.3	890.1	925.9	921.4	841.1	805.4	787.5	771.9	760.8	758.6	778.6
30°	809.8	818.8	836.6	830.0	769.7	734.0	727.3	720.7	713.9	716.2	745.1
32.5°	754.1	760.8	771.9	763.0	705.0	673.8	662.6	653.7	647.1	653.7	687.1
35°	691.6	711.8	725.1	720.7	658.2	620.3	595.7	573.4	564.5	571.1	609.1
37.5°	638.1	671.5	689.4	684.9	620.3	575.6	544.3	540.0	540.0	548.8	586.7
40°	618.0	642.6	658.2	651.5	586.7	542.2	524.3	517.6	519.8	528.7	568.9
42.5°	600.2	622.4	626.9	613.5	548.8	519.8	508.7	499.8	504.2	515.3	555.5
45°	584.5	602.3	600.2	580.0	517.6	497.5	497.5	490.8	493.1	501.9	544.3
47.5°	573.4	582.4	577.9	557.8	495.3	479.6	486.3	486.3	490.8	497.5	540.0
50°	555.5	562.2	557.8	540.0	477.5	464.1	470.8	479.6	484.1	490.8	528.7
52.5°	537.7	542.2	540.0	522.0	459.6	450.7	450.7	459.6	468.5	477.5	510.9
55°	519.8	524.3	526.5	513.2	446.3	437.2	435.1	435.1	444.0	457.4	493.1
57.5°	506.4	506.4	510.9	501.9	432.7	421.6	410.5	412.8	423.9	435.1	470.8
60°	490.8	493.1	499.8	490.8	414.9	397.1	388.2	399.4	403.8	414.9	452.9
62.5°	477.5	477.5	482.0	475.2	399.4	381.6	374.9	386.0	386.0	397.1	435.1
65°	466.3	464.1	464.1	461.8	383.7	365.9	361.4	365.9	368.1	379.2	417.2
67.5°	457.4	446.3	446.3	450.7	368.1	350.2	348.0	348.0	350.2	363.7	397.1
70°	437.2	428.4	426.1	441.7	352.5	330.2	330.2	325.7	330.2	336.8	372.6
72.5°	414.9	408.3	406.0	428.4	336.8	307.9	303.4	301.2	303.4	310.1	343.6
75°	386.0	381.6	386.0	419.4	321.2	283.3	276.7	274.5	274.5	276.7	312.4
77.5°	352.5	348.0	381.6	390.4	312.4	254.3	247.7	243.2	238.7	238.7	278.8
80°	312.4	310.1	368.1	330.2	299.0	223.1	212.0	205.3	200.8	198.6	238.7
82.5°	272.2	267.6	314.5	258.8	247.7	182.9	167.2	153.9	147.3	147.3	182.9
85°	223.1	220.9	247.7	189.7	171.7	133.9	111.6	100.4	91.4	91.4	118.2
87.5°	162.9	158.4	153.9	113.7	87.0	60.2	42.4	40.2	35.7	33.5	49.0
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°	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3	10490.3
2.5°	8812.7	8997.8	9348.0	9635.9	10019.6	10327.5	10677.8	10829.4
5°	6574.9	6867.2	7402.6	7859.9	8493.6	9080.3	9749.6	10115.6
7.5°	4716.4	5149.3	5555.3	6126.3	6918.4	7706.0	8571.6	9055.7
10°	3902.0	4299.3	4647.3	5053.3	5664.6	6550.3	7583.2	8129.9
12.5°	3232.8	3661.2	4029.3	4464.4	4977.5	5778.4	6956.4	7592.2
15°	2478.6	2945.0	3386.7	3911.1	4540.2	5454.9	6768.9	7478.5
17.5°	1697.8	2197.5	2742.0	3382.2	4140.8	5318.7	6947.5	7822.0
20°	1153.4	1519.4	2110.6	2869.1	3781.6	5254.1	7340.1	8529.3
22.5°	948.2	1113.3	1557.3	2387.2	3487.1	5325.6	7978.2	9459.5
25°	870.1	959.3	1211.4	1963.3	3261.8	5515.1	8841.6	10510.4
27.5°	821.0	896.9	1062.0	1659.8	3054.4	5774.0	9892.5	11795.5
30°	792.0	863.3	1001.7	1503.7	2864.7	5997.0	10796.0	12763.7
32.5°	727.3	780.8	894.7	1414.5	2728.5	6177.7	11592.5	13669.5
35°	649.2	713.9	807.7	1356.5	2724.1	6262.5	12342.2	14671.4
37.5°	620.3	682.7	751.8	1325.2	2750.8	6333.9	13259.0	15806.9
40°	602.3	658.2	713.9	1320.7	2773.2	6389.7	14155.9	16989.4
42.5°	586.7	642.6	707.2	1289.6	2764.3	6465.5	14950.2	18004.5
45°	582.4	638.1	722.9	1242.8	2762.1	6583.8	15581.6	18816.5
47.5°	577.9	662.6	718.4	1191.4	2753.2	6833.6	16293.3	19572.9
50°	573.4	707.2	687.1	1120.0	2686.1	7259.8	17250.4	20438.6
52.5°	571.1	713.9	653.7	1021.8	2565.7	7891.1	18651.4	21643.2
55°	562.2	678.3	595.7	892.4	2391.6	8571.6	20153.0	23060.0
57.5°	542.2	604.6	562.2	765.3	2141.8	9046.8	21261.8	24155.5
60°	591.2	519.8	540.0	700.6	1842.8	9131.7	21310.9	24463.3
62.5°	564.5	473.0	517.6	678.3	1633.1	8578.4	20335.9	24095.2
65°	450.7	448.4	497.5	700.6	1601.8	7340.1	18689.5	23004.2
67.5°	410.5	430.6	477.5	727.3	1622.0	5782.9	16266.5	20456.4
70°	383.7	408.3	450.7	751.8	1657.7	4555.8	13096.2	16636.8
72.5°	356.9	377.1	423.9	776.4	1633.1	3594.2	10481.5	12815.1
75°	323.5	341.3	386.0	711.8	1401.1	2641.6	8328.5	9100.4
77.5°	285.6	301.2	339.1	562.2	1053.0	1838.4	6237.9	6559.3
80°	245.4	252.1	281.2	410.5	687.1	1099.9	4747.7	5231.8
82.5°	194.2	196.3	214.1	301.2	428.4	702.7	3293.0	3759.3
85°	125.0	129.4	138.3	212.0	287.8	450.7	1682.1	1927.7
87.5°	42.4	49.0	49.0	102.6	140.5	249.8	515.3	374.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)