

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: P196690

Luminaire Tested: **NAV-AF-04-D-UNV-SLL-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196690
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-04-D-UNV-SLL-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 800mA 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: 16838 lumens
Efficiency: N/A
Efficacy: 98.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

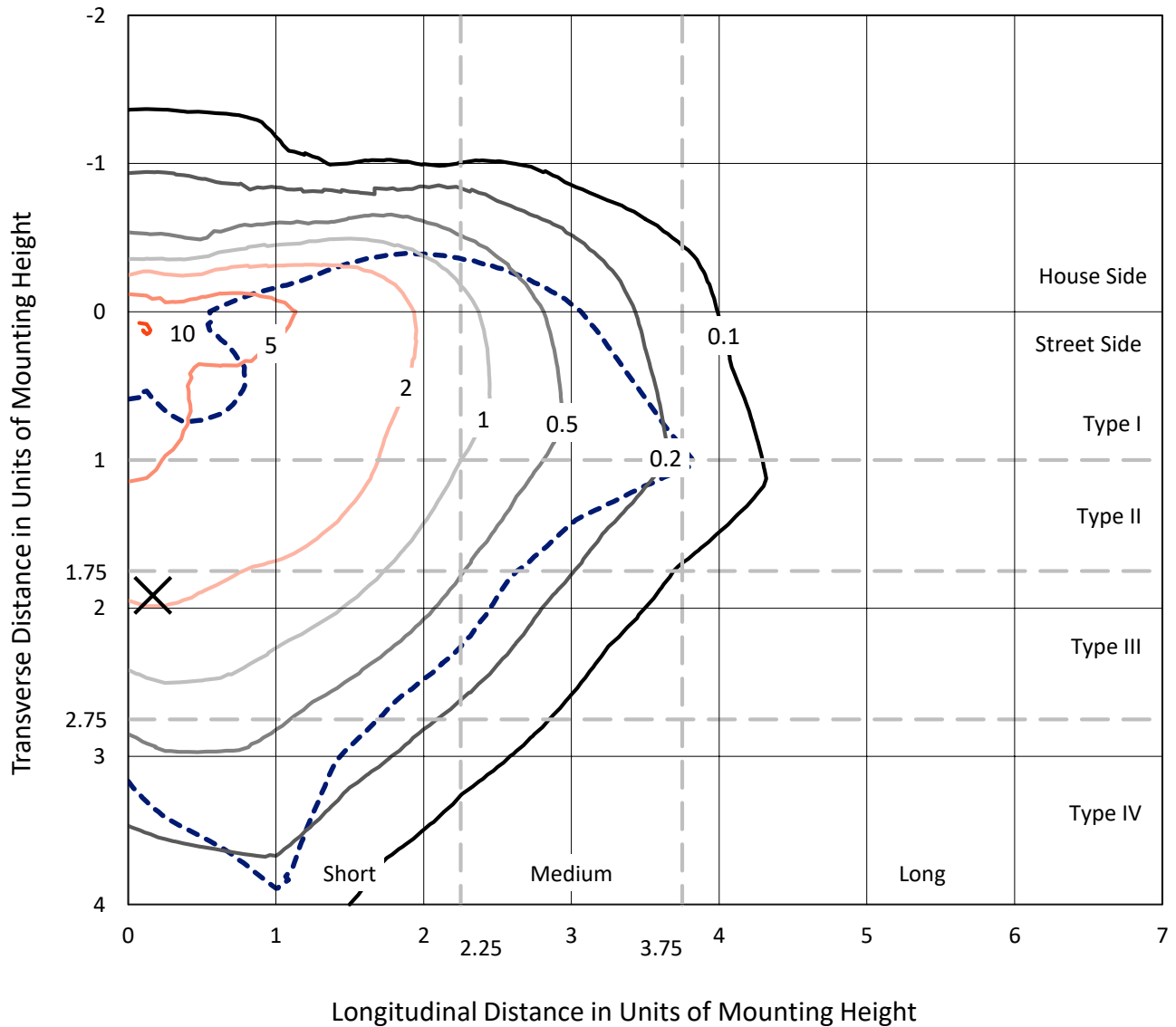
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

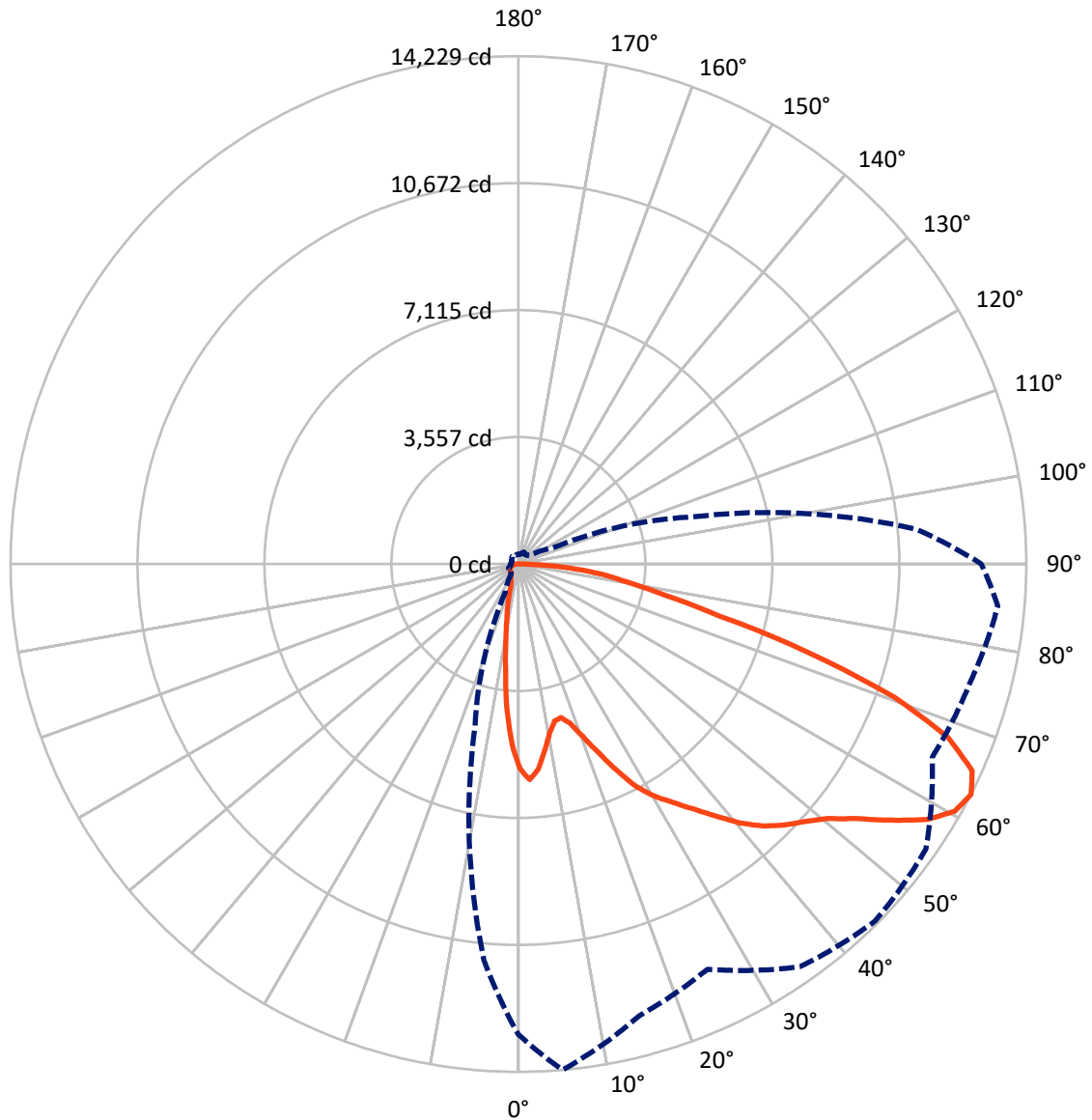
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.5 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	2982.9	0.0	2982.9
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	13855.1	0.0	13855.1
	% Fixture	82.3	0.0	82.3
Total	Lumens	16838.0	0.0	16838.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	417.5	2.5
10°-20°	762.5	4.5
20°-30°	1096.7	6.5
30°-40°	1679.7	10.0
40°-50°	2455.7	14.6
50°-60°	3573.1	21.2
60°-70°	4139.9	24.6
70°-80°	2158.1	12.8
80°-90°	554.7	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°	16838.0	100.0
0°-180°	16838.0	100.0



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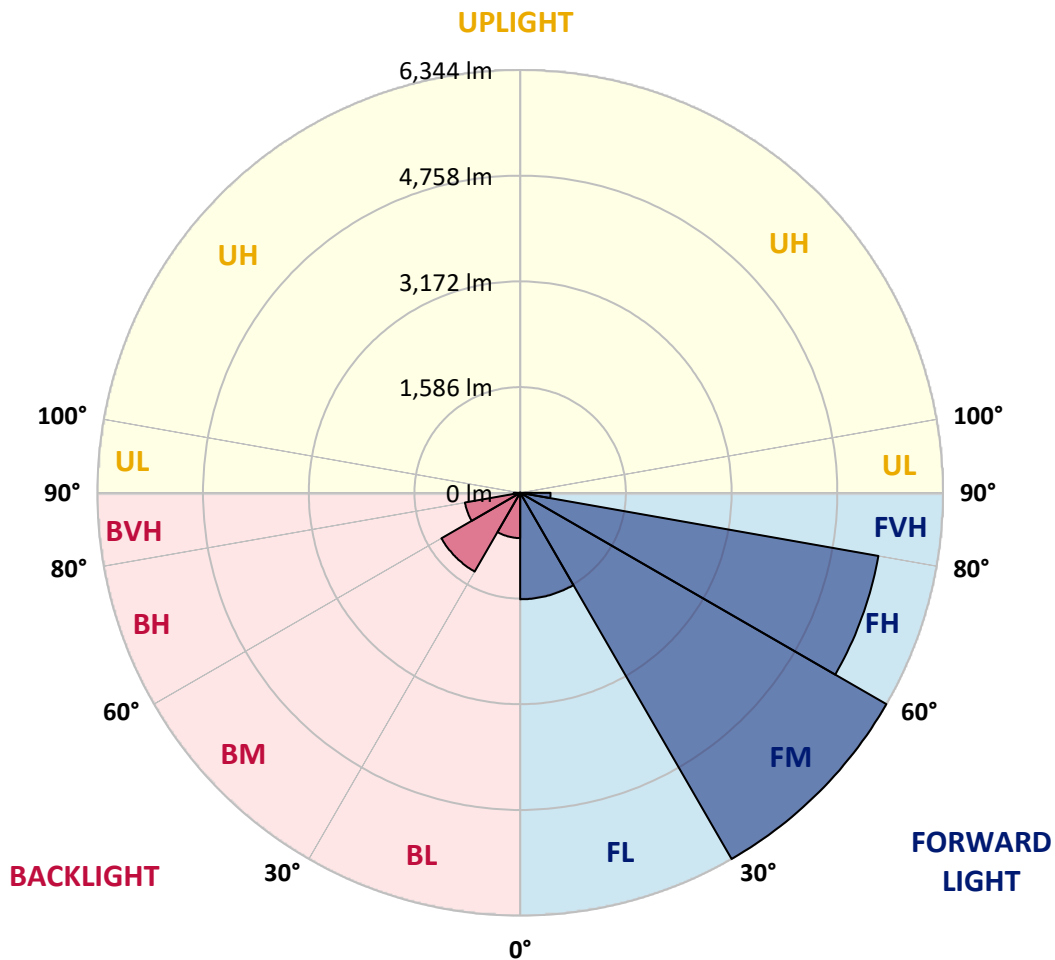
CATALOG NUMBER: NAV-AF-04-D-UNV-SLL-7030-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1598.0	9.5			
FM	(30°-60°)	6343.8	37.7			
FH	(60°-80°)	5456.9	32.4			G3/7500
FVH	(80°-90°)	456.4	2.7			G3/500
BL	(0°-30°)	678.7	4.0	B2/1000		
BM	(30°-60°)	1364.8	8.1	B2/2500		
BH	(60°-80°)	841.1	5.0	B2/1000		G2/1000
BVH	(80°-90°)	98.4	0.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4
2.5°	5926.0	6051.7	6195.8	6383.8	6512.0	6563.2	6606.0	6533.9	6464.4	6333.8	6287.4
5°	5535.3	5777.0	6173.8	6551.0	6883.2	7073.6	7132.1	6999.0	6762.3	6420.4	6239.7
7.5°	4955.4	5274.1	5831.9	6387.4	6863.5	7180.9	7204.2	6940.4	6474.1	5913.7	5620.8
10°	4448.7	4808.9	5454.8	6076.1	6580.3	6905.0	6841.6	6471.7	5908.8	5271.5	4940.7
12.5°	4154.5	4514.7	5172.7	5803.9	6278.8	6402.0	6272.7	5961.4	5427.9	4789.4	4456.0
15°	4092.3	4463.3	5072.6	5604.9	5899.1	5819.7	5691.6	5534.1	5154.5	4631.8	4309.5
17.5°	4280.2	4695.3	5205.6	5497.5	5485.3	5294.8	5187.3	5217.9	5153.2	4802.8	4465.9
20°	4667.2	5158.0	5543.9	5468.1	5155.6	4888.3	4826.0	5065.3	5364.4	5231.4	4861.4
22.5°	5176.3	5735.4	6005.3	5552.3	4983.5	4695.3	4683.2	5056.7	5748.9	5879.6	5429.1
25°	5751.4	6403.3	6470.5	5701.3	4965.2	4678.3	4667.2	5188.6	6211.6	6521.6	6065.1
27.5°	6454.6	7077.2	6858.6	5900.3	5045.7	4728.3	4735.7	5413.2	6693.9	7156.6	6781.7
30°	6984.4	7555.9	7097.9	6095.7	5175.2	4816.2	4834.5	5656.2	6954.0	7597.4	7354.4
32.5°	7480.1	7964.8	7327.5	6288.5	5364.4	4946.8	5010.3	5958.9	7266.4	7975.7	7895.2
35°	8028.3	8422.6	7582.6	6494.9	5635.4	5176.3	5267.9	6247.0	7576.6	8354.2	8431.1
37.5°	8649.6	8946.3	7859.8	6786.6	6026.0	5601.1	5652.5	6541.3	7792.6	8773.0	9006.1
40°	9296.7	9533.5	8162.5	7176.1	6593.8	6175.0	6199.5	6918.6	7962.3	9206.4	9564.0
42.5°	9852.1	10036.5	8466.5	7659.5	7245.6	6759.8	6780.5	7325.1	8124.7	9580.0	10010.9
45°	10296.6	10432.1	8753.5	8168.7	7941.6	7489.8	7485.1	7739.0	8342.1	9894.9	10354.0
47.5°	10710.4	10782.5	9073.3	8664.3	8663.0	8429.9	8255.3	8227.2	8631.4	10159.8	10653.1
50°	11184.1	11211.0	9495.7	9164.8	9544.6	9507.8	9185.7	8847.4	9006.1	10457.8	10966.8
52.5°	11843.3	11844.6	10019.4	9653.2	10517.6	10633.5	10258.7	9549.4	9560.4	11037.6	11508.9
55°	12618.6	12672.3	10701.8	10237.9	11535.7	11733.5	11380.7	10383.2	10356.3	11972.7	12387.9
57.5°	13218.0	13502.5	11496.7	10969.3	12486.8	12744.3	12459.9	11247.5	11334.2	12937.3	13113.1
60°	13386.6	14051.9	12288.9	11789.6	13291.3	13678.2	13388.9	12181.6	12291.4	13563.6	13321.8
62.5°	13185.1	14229.0	13096.0	12524.6	13768.7	14139.8	13932.2	12793.1	13071.6	13482.9	12969.0
65°	12588.1	13972.5	13796.7	12837.1	13493.9	13625.8	13570.9	12825.0	13495.1	12721.2	11993.5
67.5°	11193.8	12983.6	13484.2	12169.3	12210.9	12069.3	11997.2	11953.3	13019.0	11491.8	10455.2
70°	9103.8	11156.0	11993.5	10184.3	9876.6	9739.9	9503.1	10089.0	11701.7	9791.2	8604.5
72.5°	7012.5	8534.9	9837.4	7720.6	7080.9	7127.3	6858.6	7714.5	9693.5	7569.3	6569.3
75°	4979.8	5819.7	7852.5	5547.5	4700.3	4697.8	4677.1	5552.3	7648.5	5432.7	4806.5
77.5°	3589.2	4189.9	6151.9	3712.6	3335.3	3378.1	3309.7	3773.6	5962.6	3907.8	3561.2
80°	2862.9	3102.2	3976.3	2475.9	2483.1	2583.3	2568.6	2580.8	3922.5	2830.0	2662.6
82.5°	2057.2	2355.0	3039.9	1897.2	1642.0	1748.2	1769.0	1914.3	2767.6	2001.0	1755.6
85°	1054.8	1435.6	2796.9	1643.3	1026.7	850.9	979.1	1510.2	2403.8	1198.9	855.8
87.5°	205.1	398.0	2049.8	913.2	461.5	233.2	384.6	639.7	1397.9	217.3	106.2
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°	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4
2.5°	6208.0	6051.7	5905.3	5753.8	5636.5	5493.8	5353.3	5231.4	5112.9	5034.7	5059.1
5°	6056.6	5675.7	5333.8	5016.4	4830.9	4607.5	4408.5	4241.2	4111.8	4028.8	4078.8
7.5°	5366.9	4851.6	4401.2	3982.4	3718.6	3429.3	3197.4	3033.8	2933.7	2877.6	2959.3
10°	4661.2	4082.5	3577.0	3141.2	2881.1	2635.8	2425.8	2252.5	2118.2	2054.6	2087.6
12.5°	4155.7	3512.3	2982.6	2689.5	2466.1	2246.4	2029.1	1826.4	1655.5	1577.3	1561.5
15°	3966.5	3205.8	2665.1	2337.9	2115.7	1876.4	1642.0	1424.7	1262.4	1195.2	1180.5
17.5°	4049.4	3140.0	2477.1	2090.1	1767.9	1477.1	1213.6	1008.5	888.9	850.9	854.6
20°	4341.3	3164.3	2325.7	1834.9	1437.0	1092.7	829.0	687.4	636.1	627.4	637.3
22.5°	4741.8	3264.5	2215.8	1615.2	1145.1	794.8	616.6	549.3	535.9	534.8	544.5
25°	5270.3	3459.9	2142.6	1419.9	904.6	630.0	537.1	499.4	488.4	490.8	500.5
27.5°	5893.0	3707.7	2094.9	1251.3	743.5	561.6	501.7	468.8	457.8	460.3	467.6
30°	6461.9	3925.0	2024.1	1124.4	667.8	537.1	482.3	449.3	434.7	434.7	439.6
32.5°	6971.0	4113.1	1941.1	1029.2	598.2	482.3	437.0	411.5	400.4	404.2	406.6
35°	7422.7	4212.0	1876.4	973.1	542.0	444.3	399.3	372.3	357.8	360.1	363.9
37.5°	7867.1	4249.7	1833.7	942.5	501.7	421.2	379.6	357.8	341.9	339.4	338.1
40°	8289.5	4241.2	1793.4	933.9	474.9	404.2	367.4	348.0	332.0	328.5	327.2
42.5°	8654.5	4213.1	1755.6	910.7	456.6	391.9	357.8	340.6	324.7	319.9	317.4
45°	8987.7	4196.0	1714.1	868.1	466.3	387.0	352.8	334.6	319.9	313.8	311.3
47.5°	9357.7	4257.1	1667.7	821.6	464.0	388.2	352.8	332.0	317.4	311.3	308.8
50°	9798.5	4463.3	1610.3	758.1	442.0	415.0	351.6	328.5	315.0	311.3	306.5
52.5°	10421.0	4797.9	1530.9	676.4	424.8	443.1	350.4	322.4	311.3	305.2	299.2
55°	11274.5	5132.5	1428.3	589.7	398.0	423.6	352.8	315.0	302.7	296.6	289.3
57.5°	11974.0	5386.4	1299.0	517.7	373.5	400.4	349.2	306.5	293.1	287.0	280.8
60°	11928.8	5410.7	1175.6	471.2	358.9	360.1	357.8	300.4	284.4	279.6	274.7
62.5°	11190.3	5109.2	1060.9	448.1	348.0	328.5	365.0	293.1	275.9	271.1	267.3
65°	9960.8	4407.2	999.8	448.1	338.1	311.3	318.6	283.2	267.3	262.4	260.0
67.5°	8401.8	3541.6	942.5	457.8	324.7	299.2	289.3	273.4	258.8	253.9	251.6
70°	6734.2	2787.2	902.2	452.9	312.5	285.7	273.4	260.0	245.4	244.2	241.7
72.5°	5282.5	2239.0	883.9	452.9	294.2	269.8	257.7	247.8	233.2	231.9	228.3
75°	4232.7	1681.1	808.2	444.3	275.9	249.0	238.0	229.6	214.9	216.2	213.6
77.5°	3278.0	1189.1	675.1	400.4	252.7	225.8	217.3	211.2	194.2	195.3	195.3
80°	2563.8	774.0	523.8	332.0	225.8	199.0	192.9	188.0	169.7	172.2	172.2
82.5°	1756.8	460.3	379.6	267.3	194.2	169.7	168.5	161.1	141.6	142.8	145.4
85°	959.7	302.7	252.7	197.8	152.6	138.0	135.5	131.8	113.5	113.5	114.7
87.5°	177.0	162.4	148.9	130.7	102.6	98.9	95.3	98.9	85.4	83.0	83.0
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4
2.5°	5001.8	4917.5	4859.0	4807.6	4684.4	4692.9	4709.9	4734.4	4657.5	4697.8	4747.9
5°	4028.8	3959.2	3906.7	3824.8	3652.7	3591.7	3552.7	3535.5	3420.8	3445.2	3498.9
7.5°	2970.3	2969.1	2950.8	2859.2	2651.6	2526.0	2442.9	2417.3	2346.5	2373.3	2455.0
10°	2091.3	2113.3	2104.8	2022.9	1837.4	1747.0	1728.7	1780.0	1781.3	1833.7	1974.1
12.5°	1511.4	1499.1	1488.2	1421.0	1281.8	1267.2	1308.7	1379.5	1396.7	1452.8	1599.3
15°	1128.1	1098.7	1092.7	1040.1	948.6	962.0	992.5	1029.2	1030.5	1069.4	1190.3
17.5°	846.0	846.0	855.8	821.6	755.7	749.6	733.6	724.0	709.3	725.2	791.1
20°	656.7	687.4	711.8	692.2	632.4	603.1	572.6	553.1	542.0	543.2	562.8
22.5°	562.8	587.3	619.0	609.2	559.2	521.2	501.7	488.4	479.7	479.7	490.8
25°	515.1	531.1	560.4	555.5	512.8	482.3	466.3	452.9	443.1	442.0	452.9
27.5°	477.4	487.1	506.6	504.2	460.3	440.8	430.9	422.4	416.3	415.0	426.1
30°	443.1	448.1	457.8	454.2	421.2	401.6	398.0	394.3	390.7	391.9	407.7
32.5°	412.7	416.3	422.4	417.5	385.8	368.6	362.6	357.8	354.0	357.8	376.1
35°	378.5	389.4	396.7	394.3	360.1	339.4	325.9	313.8	308.8	312.5	333.2
37.5°	349.2	367.4	377.3	374.8	339.4	315.0	297.8	295.4	295.4	300.4	321.1
40°	338.1	351.6	360.1	356.5	321.1	296.6	287.0	283.2	284.4	289.3	311.3
42.5°	328.5	340.6	343.1	335.8	300.4	284.4	278.4	273.4	275.9	282.0	304.0
45°	319.9	329.6	328.5	317.4	283.2	272.3	272.3	268.6	269.8	274.7	297.8
47.5°	313.8	318.6	316.2	305.2	271.1	262.4	266.1	266.1	268.6	272.3	295.4
50°	304.0	307.7	305.2	295.4	261.2	253.9	257.7	262.4	265.0	268.6	289.3
52.5°	294.2	296.6	295.4	285.7	251.6	246.6	246.6	251.6	256.3	261.2	279.6
55°	284.4	287.0	288.1	280.8	244.2	239.3	238.0	238.0	243.0	250.3	269.8
57.5°	277.1	277.1	279.6	274.7	236.9	230.7	224.6	225.8	231.9	238.0	257.7
60°	268.6	269.8	273.4	268.6	227.0	217.3	212.4	218.5	220.9	227.0	247.8
62.5°	261.2	261.2	263.8	260.0	218.5	208.8	205.1	211.2	211.2	217.3	238.0
65°	255.1	253.9	253.9	252.7	210.0	200.3	197.8	200.3	201.5	207.6	228.3
67.5°	250.3	244.2	244.2	246.6	201.5	191.6	190.4	190.4	191.6	199.0	217.3
70°	239.3	234.4	233.2	241.7	192.9	180.8	180.8	178.2	180.8	184.3	203.9
72.5°	227.0	223.4	222.3	234.4	184.3	168.5	166.1	164.8	166.1	169.7	188.0
75°	211.2	208.8	211.2	229.6	175.8	155.0	151.5	150.1	150.1	151.5	170.9
77.5°	192.9	190.4	208.8	213.6	170.9	139.2	135.5	133.1	130.7	130.7	152.6
80°	170.9	169.7	201.5	180.8	163.6	122.1	116.1	112.3	110.0	108.6	130.7
82.5°	148.9	146.5	172.2	141.6	135.5	100.1	91.6	84.2	80.6	80.6	100.1
85°	122.1	120.8	135.5	103.8	94.0	73.2	61.0	54.9	50.0	50.0	64.7
87.5°	89.1	86.7	84.2	62.3	47.6	33.0	23.2	22.0	19.5	18.3	26.9
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4	5740.4
2.5°	4822.2	4923.7	5115.3	5272.9	5482.7	5651.2	5842.9	5926.0
5°	3597.8	3757.8	4050.8	4301.0	4647.8	4968.8	5335.0	5535.3
7.5°	2580.8	2817.7	3039.9	3352.4	3785.9	4216.8	4690.5	4955.4
10°	2135.3	2352.6	2543.0	2765.3	3099.6	3584.4	4149.6	4448.7
12.5°	1769.0	2003.4	2204.9	2442.9	2723.8	3162.0	3806.6	4154.5
15°	1356.4	1611.5	1853.2	2140.2	2484.4	2985.0	3704.0	4092.3
17.5°	929.0	1202.5	1500.4	1850.8	2265.9	2910.4	3801.6	4280.2
20°	631.2	831.4	1154.9	1569.9	2069.4	2875.0	4016.6	4667.2
22.5°	518.9	609.2	852.1	1306.3	1908.2	2914.2	4365.7	5176.3
25°	476.2	525.0	662.8	1074.3	1784.9	3018.0	4838.2	5751.4
27.5°	449.3	490.8	581.1	908.3	1671.3	3159.6	5413.2	6454.6
30°	433.4	472.4	548.2	822.8	1567.6	3281.6	5907.6	6984.4
32.5°	398.0	427.3	489.6	774.0	1493.1	3380.5	6343.5	7480.1
35°	355.3	390.7	442.0	742.3	1490.7	3426.9	6753.7	8028.3
37.5°	339.4	373.5	411.5	725.2	1505.3	3465.9	7255.5	8649.6
40°	329.6	360.1	390.7	722.8	1517.5	3496.6	7746.3	9296.7
42.5°	321.1	351.6	387.0	705.6	1512.5	3538.1	8180.9	9852.1
45°	318.6	349.2	395.5	680.0	1511.4	3602.8	8526.4	10296.6
47.5°	316.2	362.6	393.2	651.9	1506.4	3739.4	8915.8	10710.4
50°	313.8	387.0	376.1	612.8	1469.9	3972.6	9439.6	11184.1
52.5°	312.5	390.7	357.8	559.2	1404.0	4318.2	10206.2	11843.3
55°	307.7	371.2	325.9	488.4	1308.7	4690.5	11027.9	12618.6
57.5°	296.6	330.8	307.7	418.8	1172.1	4950.5	11634.6	13218.0
60°	323.5	284.4	295.4	383.4	1008.5	4996.9	11661.5	13386.6
62.5°	308.8	258.8	283.2	371.2	893.6	4694.1	11127.9	13185.1
65°	246.6	245.4	272.3	383.4	876.6	4016.6	10227.0	12588.1
67.5°	224.6	235.7	261.2	398.0	887.5	3164.3	8901.2	11193.8
70°	210.0	223.4	246.6	411.5	907.1	2493.0	7166.4	9103.8
72.5°	195.3	206.3	231.9	424.8	893.6	1966.7	5735.4	7012.5
75°	177.0	186.9	211.2	389.4	766.7	1445.5	4557.4	4979.8
77.5°	156.2	164.8	185.5	307.7	576.3	1006.0	3413.5	3589.2
80°	134.3	138.0	153.8	224.6	376.1	601.9	2597.9	2862.9
82.5°	106.2	107.4	117.2	164.8	234.4	384.6	1802.0	2057.2
85°	68.4	70.8	75.7	116.1	157.5	246.6	920.5	1054.8
87.5°	23.2	26.9	26.9	56.2	76.9	136.7	282.0	205.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)