

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: P270304

Luminaire Tested: **NAV-AF-01-D-UNV-T2R-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270304
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24459)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-T2R-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 2700K, 1200mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6101.9 lumens
Efficiency: N/A
Efficacy: 91.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

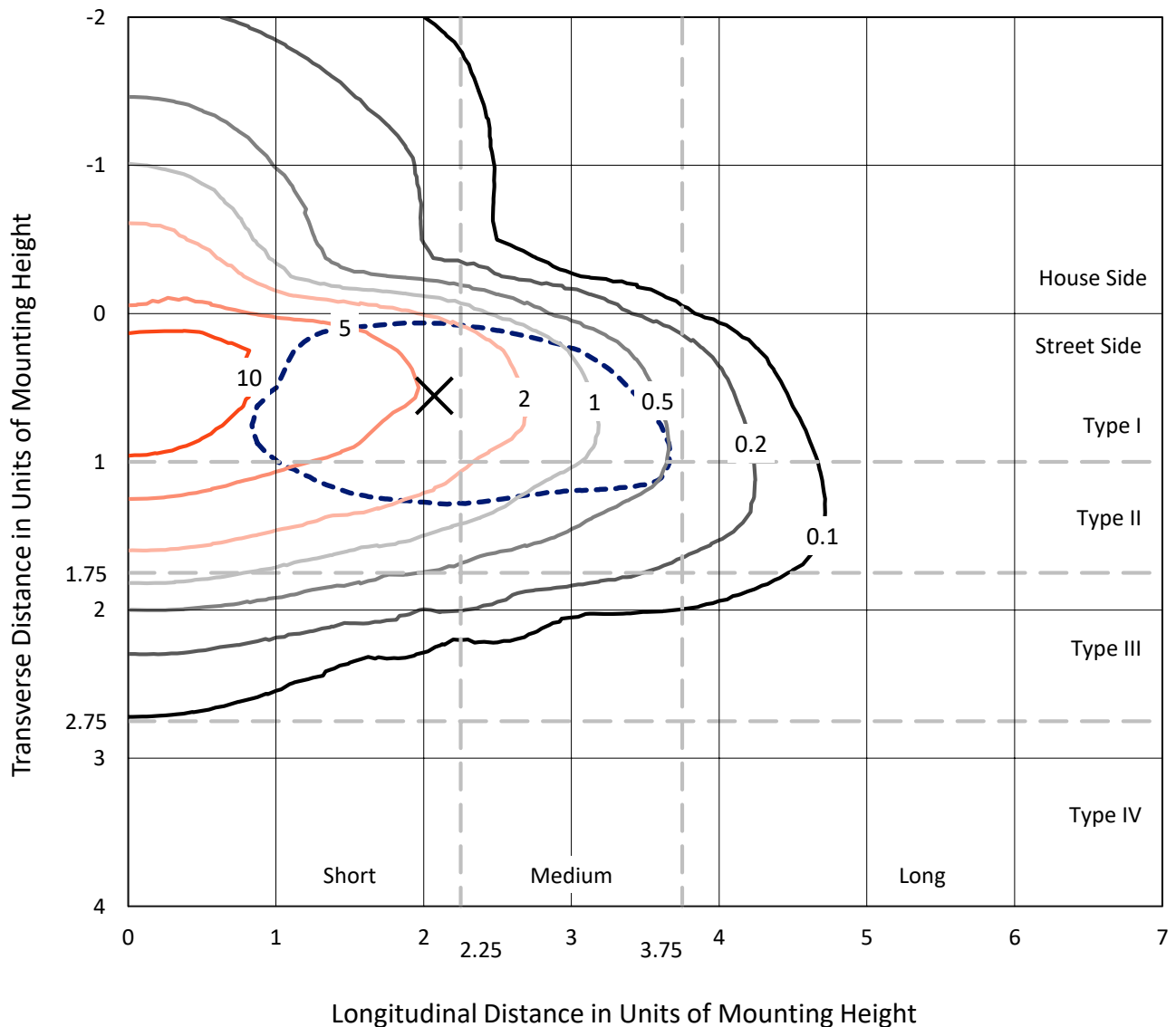
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

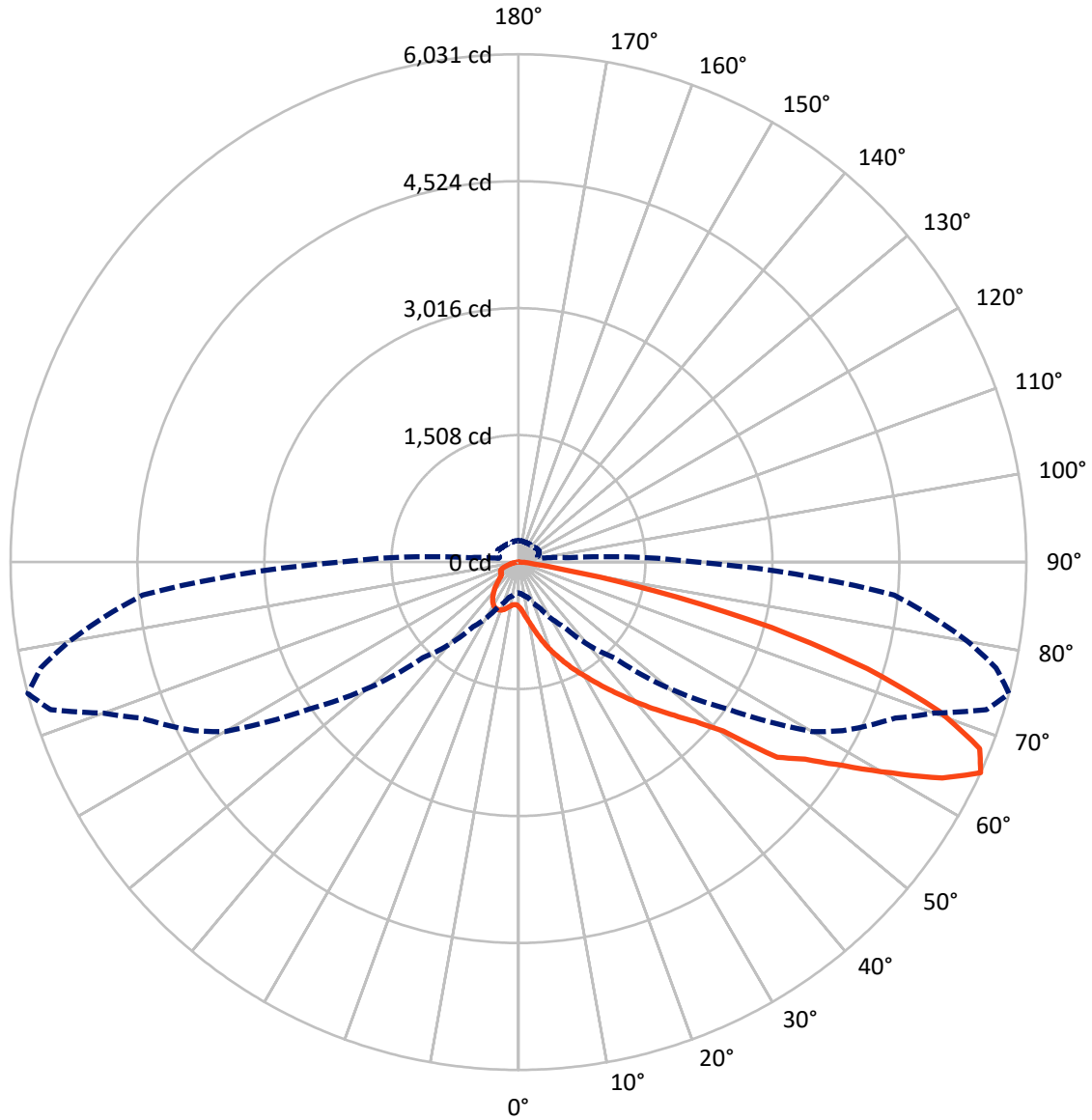
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 15.2 fc
 Type II - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	916.9	0.0	916.9
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	5185.0	0.0	5185.0
	% Fixture	85.0	0.0	85.0
Total	Lumens	6101.9	0.0	6101.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.4	1.0
10°-20°	238.4	3.9
20°-30°	481.1	7.9
30°-40°	817.0	13.4
40°-50°	1139.6	18.7
50°-60°	1396.7	22.9
60°-70°	1314.1	21.5
70°-80°	576.2	9.4
80°-90°	76.2	1.2
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°	6101.9	100.0
0°-180°	6101.9	100.0



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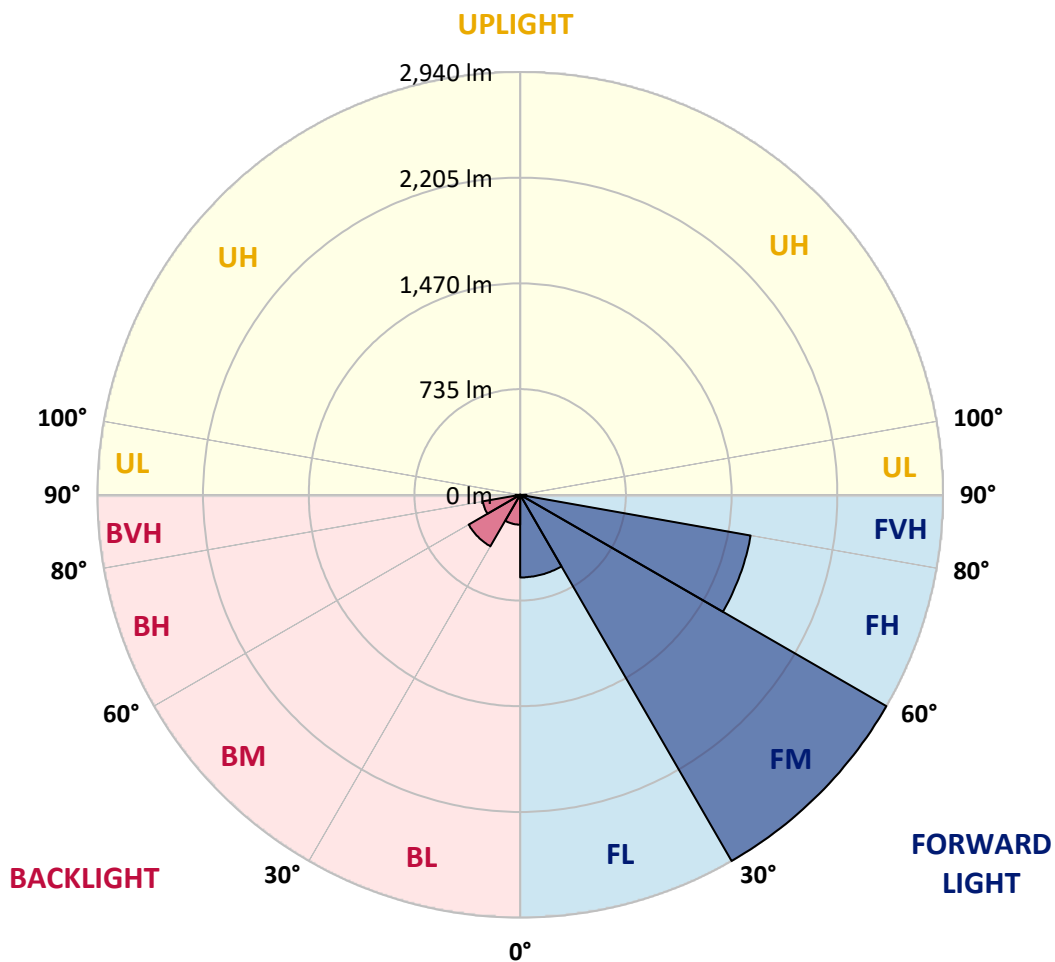
CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7027-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	574.4	9.4			
FM (30°-60°)	2939.6	48.2			
FH (60°-80°)	1626.8	26.7			G1/1800
FVH (80°-90°)	44.2	0.7			G1/100
BL (0°-30°)	207.6	3.4	B1/500		
BM (30°-60°)	413.7	6.8	B1/1000		
BH (60°-80°)	263.5	4.3	B1/500		G1/500
BVH (80°-90°)	32.0	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	528.7	528.7	528.7	528.7	528.7	528.7	528.7	528.7	528.7	528.7	528.7
2.5°	665.7	658.0	658.7	647.9	632.0	614.5	600.1	592.3	585.8	583.8	572.9
5°	870.6	860.9	857.4	832.5	795.4	751.2	707.2	690.2	676.2	667.7	646.7
7.5°	1038.4	1033.3	1028.6	1005.7	968.9	912.1	841.5	816.3	793.1	767.4	742.2
10°	1152.4	1150.5	1148.7	1132.8	1102.0	1052.8	976.6	949.1	920.0	887.3	854.4
12.5°	1238.7	1238.7	1240.2	1227.1	1208.4	1170.3	1101.2	1075.6	1046.2	1012.0	974.3
15°	1296.6	1298.1	1306.1	1310.1	1300.3	1276.0	1215.3	1192.9	1164.9	1131.1	1093.9
17.5°	1334.9	1338.0	1350.1	1362.9	1375.2	1366.7	1321.8	1300.7	1275.6	1244.5	1209.6
20°	1424.3	1420.3	1420.7	1416.8	1435.0	1441.7	1416.8	1399.4	1379.2	1350.8	1319.0
22.5°	1611.6	1604.4	1585.2	1536.8	1514.6	1512.3	1497.6	1488.2	1472.7	1454.8	1423.0
25°	1856.3	1847.8	1810.1	1730.0	1664.1	1603.1	1575.9	1570.1	1560.0	1548.0	1525.1
27.5°	2109.0	2099.6	2051.1	1950.2	1864.1	1740.9	1656.4	1648.6	1639.2	1634.1	1623.3
30°	2331.3	2321.3	2273.5	2171.1	2067.0	1920.2	1764.6	1737.4	1721.5	1723.0	1716.9
32.5°	2526.7	2517.7	2464.1	2359.7	2254.0	2111.6	1905.1	1862.8	1827.2	1813.9	1818.6
35°	2690.5	2682.2	2623.7	2518.5	2412.0	2293.7	2086.0	2022.4	1964.1	1927.7	1923.5
37.5°	2786.7	2782.1	2740.9	2651.5	2546.1	2459.1	2288.6	2218.1	2132.2	2079.0	2055.7
40°	2781.2	2786.4	2779.3	2738.9	2657.0	2593.8	2499.9	2429.9	2346.2	2267.0	2219.5
42.5°	2702.0	2709.1	2740.5	2761.5	2739.3	2700.9	2684.2	2632.3	2556.8	2473.0	2407.5
45°	2593.3	2599.5	2640.4	2716.0	2779.3	2790.1	2845.7	2819.7	2756.0	2684.6	2612.5
47.5°	2426.9	2438.9	2486.1	2606.6	2757.2	2862.0	2981.1	2993.2	2956.3	2897.4	2829.8
50°	2185.8	2201.7	2268.1	2439.3	2673.4	2935.8	3182.7	3228.4	3213.6	3153.9	3085.6
52.5°	1938.9	1954.8	2043.4	2225.5	2538.3	2966.1	3381.0	3498.2	3582.8	3644.6	3656.6
55°	1681.9	1699.9	1796.8	2006.5	2358.1	2927.5	3522.7	3655.8	3741.6	3805.9	3832.0
57.5°	1392.0	1412.1	1506.1	1718.1	2103.6	2773.1	3680.3	3868.9	3996.6	4096.0	4151.8
60°	1059.3	1084.6	1182.0	1395.4	1768.9	2477.3	3750.6	4029.5	4232.6	4381.8	4470.1
62.5°	671.6	697.2	798.5	1020.1	1388.2	2073.2	3551.8	3959.0	4305.1	4525.8	4688.0
65°	366.4	377.6	434.1	600.8	935.9	1608.5	3047.9	3528.2	4026.9	4339.4	4588.6
67.5°	274.8	276.4	282.2	323.0	498.4	1086.1	2382.9	2822.7	3376.6	3778.8	4076.6
70°	240.7	240.7	241.5	241.9	270.6	588.5	1614.4	2019.3	2527.0	2933.9	3303.7
72.5°	215.9	213.4	212.7	208.0	211.9	301.7	878.8	1242.5	1670.7	2127.1	2472.2
75°	186.3	185.9	185.9	181.3	183.7	212.3	381.2	596.3	928.0	1353.1	1692.9
77.5°	161.1	158.5	158.8	156.0	163.4	162.7	180.9	245.6	404.1	710.7	992.5
80°	132.8	130.9	132.1	130.4	142.1	120.4	121.9	150.2	200.7	311.7	439.5
82.5°	98.3	99.1	106.4	105.6	119.6	81.1	89.3	112.2	135.0	155.2	168.8
85°	57.4	58.6	76.4	80.4	87.8	42.7	54.7	66.7	75.3	83.5	87.0
87.5°	6.2	8.2	42.7	43.8	39.2	12.8	22.1	27.9	30.0	31.8	27.9
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):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	528.7	528.7	528.7	528.7	528.7	528.7	528.7	528.7	528.7	528.7	528.7
2.5°	569.4	564.5	558.9	555.8	550.4	545.8	537.2	530.2	522.5	517.1	514.6
5°	636.2	624.2	611.3	602.0	590.4	580.3	560.9	537.6	530.2	514.6	510.9
7.5°	723.1	701.4	679.7	661.8	641.7	625.0	592.3	550.4	545.0	520.2	514.6
10°	825.3	793.5	761.3	733.6	704.1	678.5	630.4	571.4	565.6	533.8	528.4
12.5°	939.4	900.6	859.0	817.8	783.0	746.9	681.3	604.0	594.7	556.9	549.7
15°	1056.9	1015.1	966.9	917.3	874.2	826.4	743.7	646.7	629.6	585.3	575.3
17.5°	1173.0	1127.6	1077.2	1021.6	971.2	914.1	811.3	694.4	664.9	613.4	600.4
20°	1285.3	1239.0	1185.9	1131.5	1068.7	1003.4	880.3	741.5	696.4	636.5	619.9
22.5°	1387.3	1347.7	1294.5	1232.0	1168.3	1095.0	950.6	788.4	723.9	654.4	633.1
25°	1494.9	1458.8	1405.9	1345.8	1271.6	1190.2	1023.2	833.0	746.0	664.1	637.7
27.5°	1603.6	1572.6	1522.7	1459.6	1379.9	1289.4	1097.0	874.2	763.9	667.4	635.5
30°	1719.5	1695.6	1649.7	1579.1	1498.7	1398.7	1177.3	914.6	775.1	662.9	625.0
32.5°	1829.5	1828.7	1787.9	1714.5	1628.0	1517.7	1261.9	955.3	780.9	650.9	606.7
35°	1943.6	1959.6	1928.8	1859.0	1767.8	1645.4	1355.5	998.7	781.3	629.6	583.0
37.5°	2073.2	2101.6	2088.0	2021.5	1925.7	1791.0	1465.3	1047.7	779.1	600.1	548.4
40°	2220.7	2259.5	2259.1	2203.3	2100.7	1954.1	1593.1	1102.4	773.6	563.2	507.7
42.5°	2389.6	2435.8	2448.6	2393.4	2289.8	2132.2	1739.4	1162.5	765.0	526.8	464.7
45°	2582.8	2623.7	2647.8	2596.6	2492.4	2326.3	1907.6	1230.9	754.5	479.8	415.3
47.5°	2789.7	2837.1	2873.3	2829.4	2718.5	2547.6	2106.6	1319.0	750.8	426.2	362.1
50°	3046.3	3095.3	3173.4	3153.5	3092.5	2955.2	2527.8	1527.1	752.3	375.3	317.6
52.5°	3683.1	3795.2	3893.8	3849.9	3705.1	3469.4	2870.2	1642.7	719.6	333.8	286.5
55°	3875.1	4002.5	4148.1	4129.8	3990.8	3753.2	3140.7	1739.4	688.2	303.5	266.3
57.5°	4211.3	4361.5	4564.8	4561.1	4390.6	4123.2	3488.8	1855.1	674.6	286.1	256.1
60°	4567.3	4758.6	5039.6	5083.5	4898.4	4620.1	3900.4	1997.1	676.6	276.4	250.4
62.5°	4827.3	5107.9	5516.8	5648.0	5429.7	5123.2	4327.3	2139.3	664.9	265.1	243.4
65°	4843.2	5247.3	5827.2	6031.4	5810.5	5416.5	4478.0	2111.2	595.0	250.0	232.1
67.5°	4455.1	4981.5	5685.9	5909.9	5683.9	5235.6	4213.9	1845.7	483.6	223.6	212.7
70°	3710.4	4321.6	5052.8	5302.4	5115.7	4661.9	3667.4	1474.3	361.4	188.6	183.7
72.5°	2867.4	3437.3	4101.4	4332.3	4189.5	3790.5	2892.6	1074.5	258.2	152.9	149.1
75°	2049.9	2535.1	3017.2	3105.4	2964.4	2598.1	1876.7	671.2	180.9	125.4	120.0
77.5°	1269.3	1584.9	1758.1	1644.6	1465.0	1217.7	763.9	331.6	120.4	102.0	96.7
80°	563.2	661.1	617.1	550.0	434.4	357.2	233.3	147.1	77.7	78.8	75.6
82.5°	189.5	200.3	194.8	193.8	174.7	152.9	99.1	63.7	43.5	50.5	49.2
85°	92.3	96.7	97.0	100.5	87.3	67.9	26.8	25.2	18.7	27.2	28.3
87.5°	27.9	28.3	25.6	27.9	22.5	15.5	5.0	6.9	3.6	6.6	6.6
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):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	528.7	528.7	528.7	528.7	528.7	528.7	528.7	528.7	528.7	528.7	528.7
2.5°	510.4	508.9	506.1	503.1	502.3	498.4	497.2	495.3	494.2	492.2	490.7
5°	505.7	503.1	499.9	496.5	496.5	491.1	488.7	486.4	486.4	482.8	481.3
7.5°	510.4	507.0	503.5	500.4	501.6	495.3	493.0	490.7	490.3	486.8	485.3
10°	523.6	520.2	515.8	512.8	511.7	506.6	503.9	500.4	498.0	495.7	493.3
12.5°	543.8	539.2	533.8	527.1	524.4	520.2	515.8	511.2	505.7	503.5	499.9
15°	567.9	560.2	552.7	544.6	537.2	533.0	527.1	519.8	512.5	509.2	504.6
17.5°	587.8	579.5	569.0	559.4	546.2	542.7	534.5	525.6	513.6	512.5	505.3
20°	604.4	592.0	579.1	567.5	547.2	545.5	535.3	524.8	507.7	507.7	499.2
22.5°	613.7	596.7	581.6	565.9	540.7	539.2	527.6	515.1	494.2	495.0	484.5
25°	615.2	594.7	575.6	556.9	527.9	525.1	510.4	496.9	473.9	472.4	461.5
27.5°	609.1	584.9	562.9	540.3	508.9	503.1	486.8	470.4	448.0	444.0	432.4
30°	594.7	566.3	541.5	515.4	482.5	473.1	456.1	439.5	416.5	411.5	400.6
32.5°	571.9	539.5	512.0	486.1	449.5	437.8	420.8	404.1	382.0	378.0	367.9
35°	541.5	505.3	476.3	448.8	412.2	400.3	383.8	369.2	349.0	347.5	340.4
37.5°	503.5	465.9	434.8	408.4	373.9	367.5	350.9	340.1	323.3	324.8	321.5
40°	460.4	421.9	392.4	369.2	339.3	333.8	323.7	315.6	301.2	305.6	306.0
42.5°	417.0	378.5	351.6	330.8	305.2	301.7	294.6	290.0	279.2	287.6	291.1
45°	367.5	331.8	308.9	293.0	274.1	274.1	270.6	270.2	262.8	274.8	278.4
47.5°	319.8	291.9	276.0	266.3	253.1	259.3	258.2	261.2	255.7	268.2	271.4
50°	283.8	264.3	254.6	250.0	240.7	250.4	252.8	256.9	252.3	263.2	265.4
52.5°	260.9	248.0	242.6	241.5	234.8	246.9	250.7	254.6	249.2	259.3	258.9
55°	248.0	239.5	237.5	239.8	234.8	246.4	250.4	253.1	248.4	255.4	254.9
57.5°	243.4	238.7	239.8	243.4	239.8	249.5	251.5	254.6	250.0	253.1	254.6
60°	243.0	243.0	247.7	252.3	250.0	256.9	258.2	257.8	253.5	254.0	254.6
62.5°	240.7	246.4	254.2	261.6	260.9	269.4	270.2	265.1	261.6	257.8	256.6
65°	233.3	243.0	254.2	264.3	265.9	279.2	280.6	275.6	273.3	266.6	261.6
67.5°	217.0	229.3	242.6	254.9	257.8	275.6	279.2	281.0	282.2	277.9	271.4
70°	189.5	202.3	215.9	230.1	234.1	254.0	261.2	270.2	277.1	283.3	281.0
72.5°	154.1	165.7	177.3	190.6	196.4	217.0	226.7	242.3	253.1	269.0	275.6
75°	122.3	129.3	136.3	144.4	149.1	169.2	181.3	200.0	214.7	236.9	251.5
77.5°	96.3	99.7	103.2	106.8	108.7	120.0	129.6	148.3	165.4	193.3	215.1
80°	74.1	76.0	76.4	77.7	76.8	82.3	85.8	97.0	111.7	139.3	165.0
82.5°	47.7	49.2	50.0	52.0	48.1	55.2	57.4	58.6	66.4	86.5	104.8
85°	26.8	27.2	27.6	28.3	22.8	30.0	30.3	28.3	27.6	35.8	40.3
87.5°	6.6	6.2	6.6	6.6	2.8	6.2	6.2	4.3	3.1	5.7	4.6
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):

	135°	145°	155°	165°	175°	180°
0°	528.7	528.7	528.7	528.7	528.7	528.7
2.5°	487.2	486.4	486.8	484.8	484.0	484.5
5°	479.3	477.9	477.9	476.7	475.2	475.2
7.5°	482.8	479.8	478.5	476.3	473.9	474.3
10°	488.3	482.8	478.9	475.6	472.8	472.8
12.5°	491.8	482.1	476.3	471.6	468.6	468.6
15°	492.6	477.9	469.4	464.2	461.1	461.1
17.5°	487.9	469.4	458.5	451.8	448.3	449.2
20°	476.3	453.4	440.6	433.6	430.1	430.5
22.5°	458.0	431.6	417.0	408.8	405.2	405.2
25°	433.3	404.4	388.5	382.0	378.8	378.8
27.5°	404.9	375.3	361.4	356.4	354.4	354.4
30°	373.1	348.6	338.5	335.0	331.8	331.8
32.5°	346.2	328.8	325.2	320.6	312.5	312.2
35°	324.8	323.0	320.2	306.2	294.6	293.0
37.5°	313.2	324.8	307.8	283.8	274.4	274.1
40°	307.0	317.9	288.4	276.8	275.6	275.6
42.5°	292.3	300.0	287.3	280.6	280.6	281.0
45°	276.8	283.3	290.0	284.1	286.1	286.5
47.5°	265.9	279.2	290.0	284.9	288.7	291.1
50°	255.7	275.2	284.1	284.1	288.4	288.7
52.5°	253.5	269.9	278.7	283.0	283.3	281.3
55°	254.0	265.4	274.4	279.9	277.5	277.5
57.5°	253.5	263.2	271.0	272.8	274.1	274.1
60°	254.0	260.1	266.3	265.4	269.4	269.4
62.5°	254.9	255.7	258.9	258.2	263.9	263.9
65°	257.8	250.4	248.4	249.2	256.1	255.7
67.5°	262.8	243.0	236.9	237.2	247.3	245.6
70°	270.2	232.9	223.6	221.3	238.3	235.6
72.5°	272.5	221.3	206.5	204.2	214.2	206.5
75°	261.6	211.9	188.3	180.5	176.2	173.9
77.5°	233.3	206.2	169.2	152.9	146.3	144.7
80°	193.3	194.0	144.4	125.0	145.2	144.7
82.5°	146.0	167.8	115.7	108.2	105.2	87.8
85°	70.6	126.1	88.9	74.5	44.6	42.3
87.5°	6.2	52.8	51.3	33.3	15.1	14.4
90°	0.0	0.0	0.0	0.0	0.0	0.0

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