

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: P270302

Luminaire Tested: **NAV-AF-01-D-UNV-T2R-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270302
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-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 2700K, 615mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3664.8 lumens
Efficiency: N/A
Efficacy: 107.8 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): 34
Input Voltage (V): NR
Input Current (A_{in}): 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

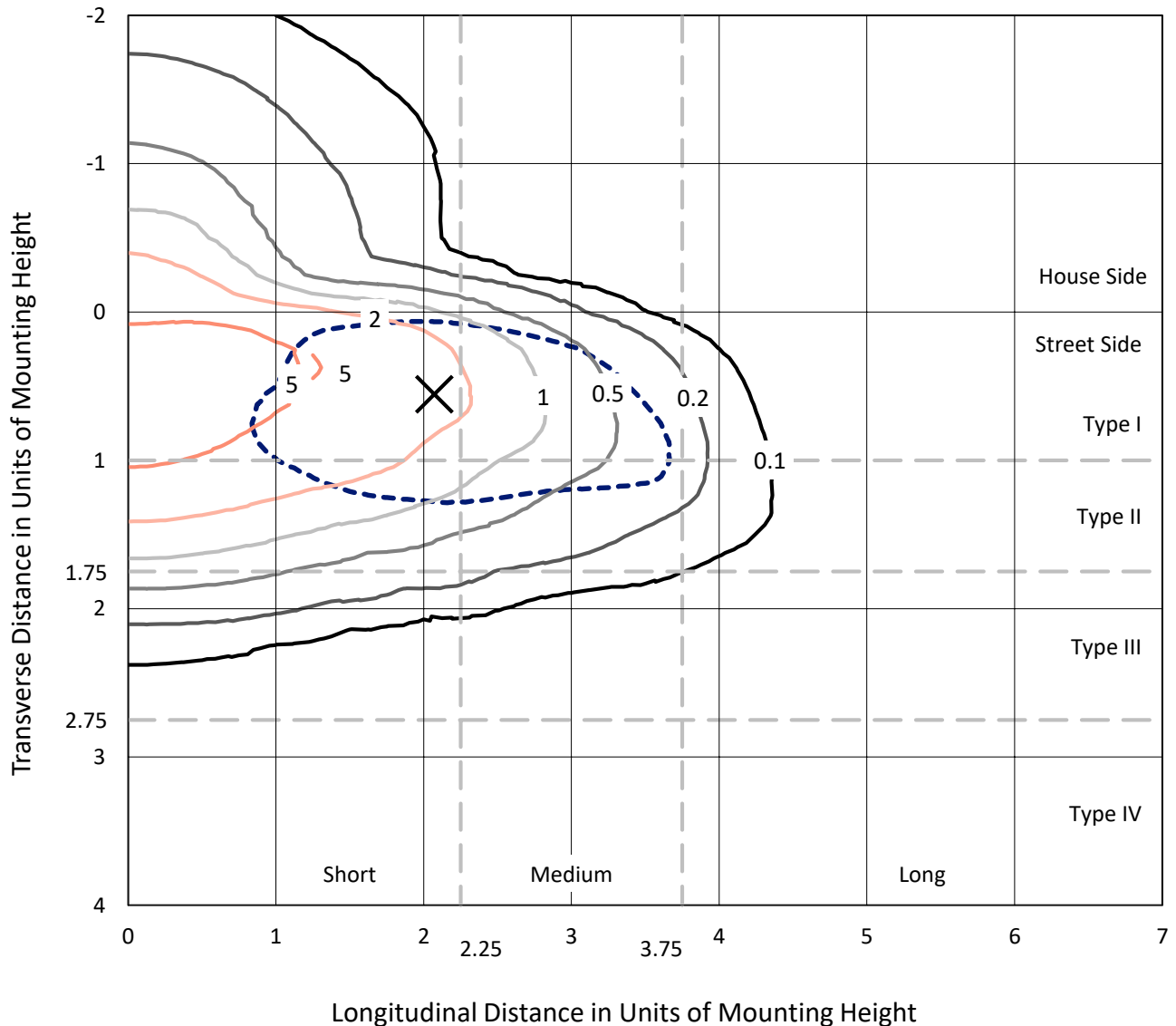


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Iso-Footcandle Lines of Horizontal Illumination

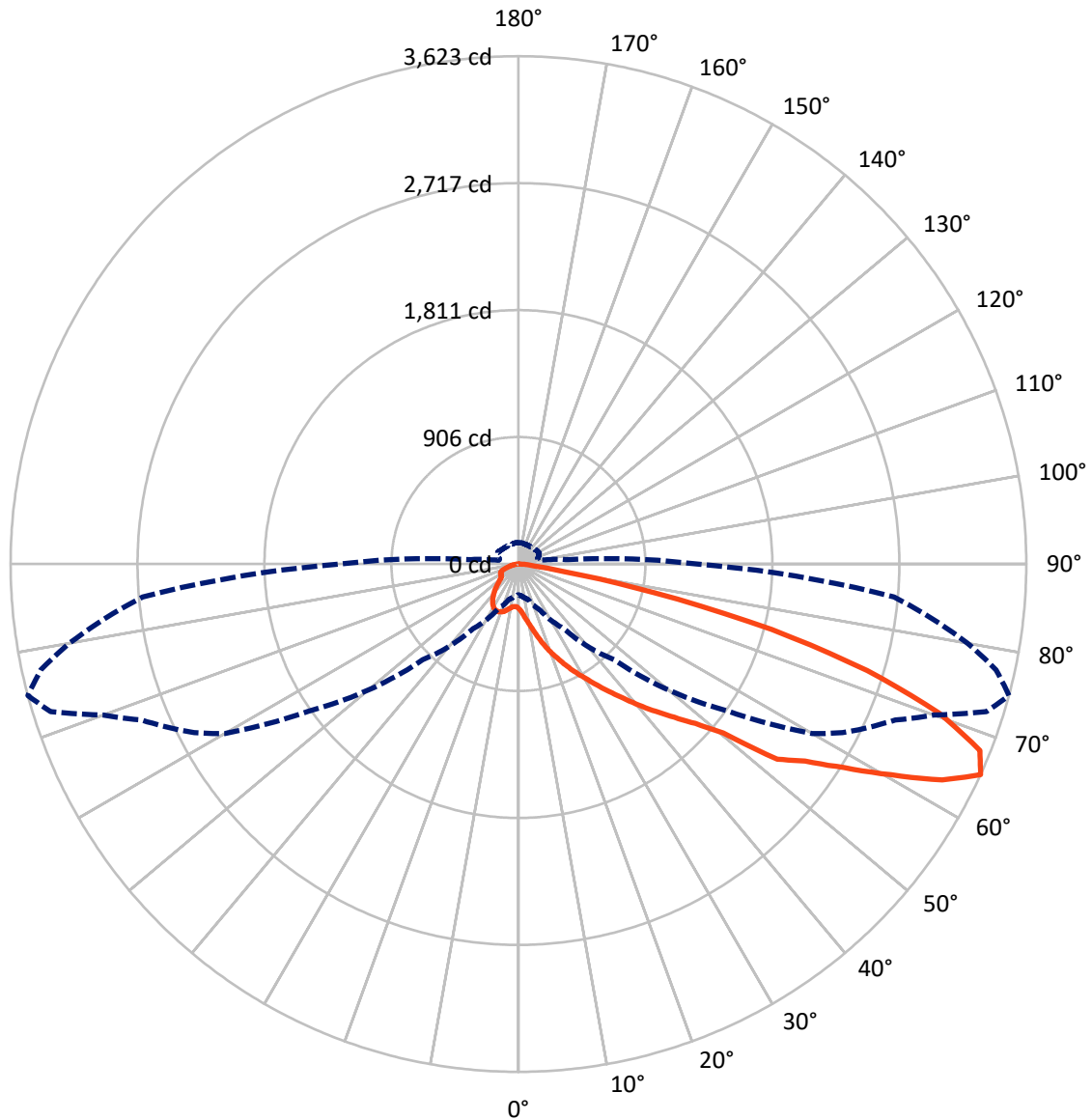
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.1 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	550.7	0.0	550.7
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	3114.2	0.0	3114.2
	% Fixture	85.0	0.0	85.0
Total	Lumens	3664.8	0.0	3664.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.5	1.0
10°-20°	143.2	3.9
20°-30°	289.0	7.9
30°-40°	490.7	13.4
40°-50°	684.5	18.7
50°-60°	838.9	22.9
60°-70°	789.3	21.5
70°-80°	346.1	9.4
80°-90°	45.8	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°	3664.8	100.0
0°-180°	3664.8	100.0



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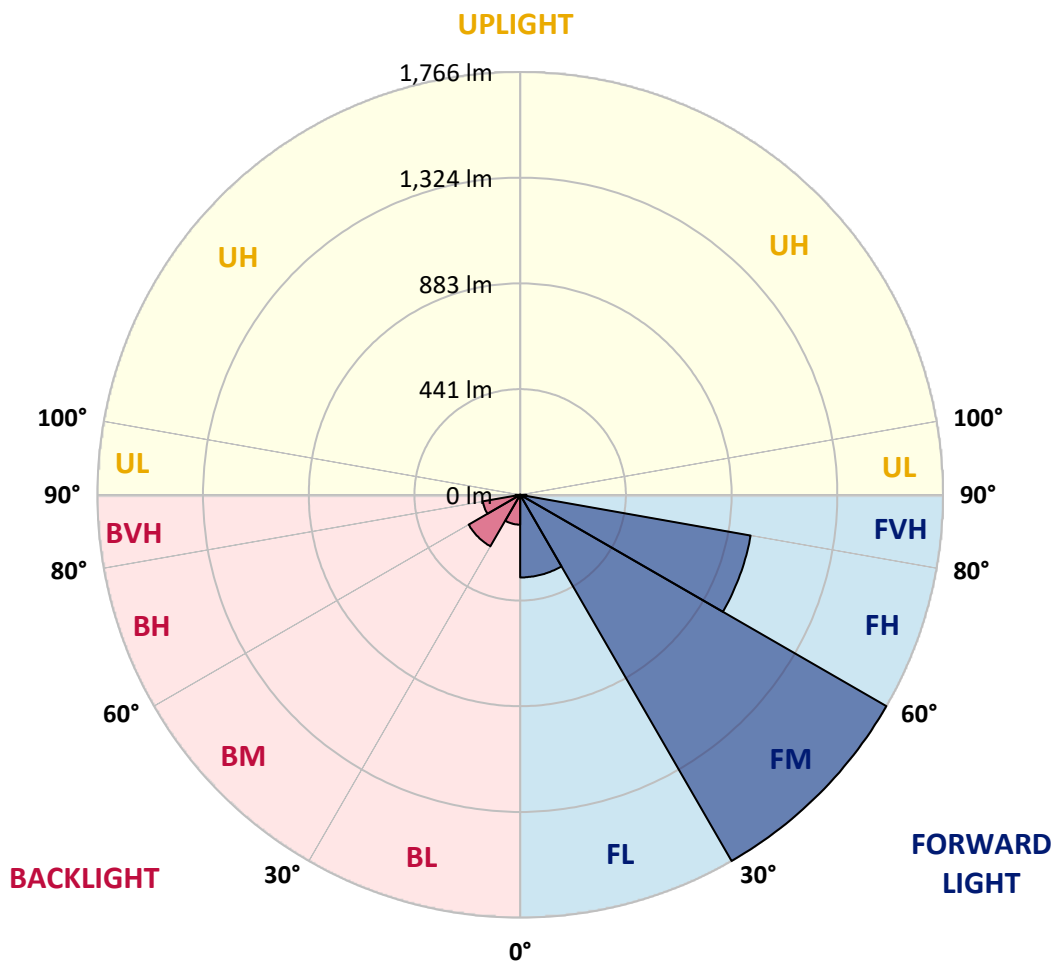
CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7027-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	345.0	9.4			
FM (30°-60°)	1765.6	48.2			
FH (60°-80°)	977.1	26.7			G1/1800
FVH (80°-90°)	26.5	0.7			G1/100
BL (0°-30°)	124.7	3.4	B1/500		
BM (30°-60°)	248.5	6.8	B1/1000		
BH (60°-80°)	158.3	4.3	B1/500		G1/500
BVH (80°-90°)	19.2	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°	317.6	317.6	317.6	317.6	317.6	317.6	317.6	317.6	317.6	317.6	317.6
2.5°	399.8	395.2	395.7	389.1	379.5	369.1	360.4	355.8	351.7	350.7	344.1
5°	523.0	517.2	515.0	500.0	477.7	451.0	424.8	414.5	406.2	401.1	388.3
7.5°	623.7	620.5	617.9	604.1	581.9	547.8	505.4	490.3	476.3	460.9	445.7
10°	692.2	691.1	689.9	680.2	662.0	632.2	586.6	570.1	552.5	533.0	513.1
12.5°	743.9	743.9	744.9	737.0	725.8	703.0	661.4	646.1	628.4	607.9	585.2
15°	778.7	779.5	784.5	786.8	781.0	766.3	730.0	716.5	699.7	679.4	657.0
17.5°	801.7	803.7	810.9	818.5	826.0	821.0	793.8	781.3	766.2	747.5	726.5
20°	855.4	853.1	853.3	851.0	862.0	865.8	851.0	840.5	828.3	811.3	792.2
22.5°	968.1	963.5	952.2	923.0	909.8	908.4	899.5	893.9	884.6	873.8	854.6
25°	1114.8	1109.8	1087.0	1039.1	999.5	962.9	946.5	943.0	937.0	929.7	916.0
27.5°	1266.6	1261.0	1231.9	1171.3	1119.6	1045.6	994.9	990.1	984.5	981.5	975.0
30°	1400.3	1394.2	1365.6	1304.0	1241.5	1153.3	1059.9	1043.6	1033.9	1034.8	1031.2
32.5°	1517.4	1512.1	1480.0	1417.3	1353.8	1268.2	1144.3	1118.8	1097.4	1089.5	1092.2
35°	1616.0	1611.0	1575.7	1512.7	1448.7	1377.6	1252.9	1214.7	1179.7	1157.7	1155.2
37.5°	1673.7	1670.8	1646.2	1592.5	1529.2	1477.0	1374.5	1332.1	1280.7	1248.7	1234.7
40°	1670.5	1673.5	1669.3	1645.1	1595.8	1557.8	1501.4	1459.4	1409.1	1361.6	1333.1
42.5°	1622.9	1627.1	1646.0	1658.6	1645.2	1622.2	1612.2	1580.9	1535.7	1485.3	1445.9
45°	1557.7	1561.3	1585.8	1631.3	1669.3	1675.8	1709.1	1693.6	1655.2	1612.4	1569.0
47.5°	1457.6	1464.9	1493.3	1565.6	1655.9	1718.9	1790.5	1797.8	1775.6	1740.1	1699.7
50°	1312.9	1322.3	1362.2	1465.0	1605.6	1763.3	1911.6	1939.0	1930.2	1894.3	1853.3
52.5°	1164.6	1174.1	1227.3	1336.6	1524.6	1781.3	2030.7	2101.0	2151.9	2189.0	2196.1
55°	1010.2	1021.0	1079.3	1205.0	1416.4	1758.3	2115.8	2195.6	2247.2	2285.9	2301.5
57.5°	836.1	848.2	904.7	1031.9	1263.3	1665.5	2210.4	2323.7	2400.5	2460.1	2493.7
60°	636.2	651.5	709.9	838.2	1062.4	1488.0	2252.6	2420.3	2542.2	2631.7	2684.9
62.5°	403.2	418.7	479.5	612.7	833.6	1245.2	2133.3	2377.9	2585.7	2718.2	2815.6
65°	220.1	226.8	260.7	360.8	562.1	966.1	1830.7	2119.0	2418.5	2606.3	2755.9
67.5°	165.1	165.9	169.5	193.9	299.3	652.3	1431.3	1695.5	2028.2	2269.6	2448.4
70°	144.5	144.5	144.9	145.3	162.6	353.5	969.6	1212.8	1517.7	1762.0	1984.3
72.5°	129.6	128.2	127.7	125.0	127.3	181.2	527.8	746.3	1003.4	1277.6	1484.9
75°	111.8	111.7	111.7	108.9	110.3	127.5	229.0	358.2	557.5	812.7	1016.7
77.5°	96.7	95.1	95.4	93.8	98.2	97.6	108.7	147.6	242.7	426.9	596.1
80°	79.7	78.6	79.3	78.3	85.2	72.3	73.2	90.2	120.6	187.1	263.9
82.5°	59.0	59.5	63.9	63.4	71.9	48.7	53.5	67.4	81.1	93.2	101.4
85°	34.6	35.3	46.0	48.2	52.7	25.6	32.9	40.2	45.3	50.1	52.2
87.5°	3.8	4.9	25.6	26.3	23.5	7.6	13.2	16.8	18.0	19.1	16.8
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):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	317.6	317.6	317.6	317.6	317.6	317.6	317.6	317.6	317.6	317.6	317.6
2.5°	342.1	339.0	335.7	333.9	330.5	327.8	322.8	318.4	313.8	310.5	309.1
5°	382.0	375.0	367.1	361.6	354.7	348.5	336.9	322.9	318.4	309.1	306.9
7.5°	434.3	421.2	408.2	397.5	385.5	375.3	355.8	330.5	327.3	312.4	309.1
10°	495.7	476.6	457.1	440.6	422.9	407.6	378.6	343.2	339.6	320.5	317.3
12.5°	564.1	540.9	515.9	491.3	470.3	448.6	409.2	362.7	357.2	334.6	330.1
15°	634.8	609.7	580.8	550.9	525.0	496.4	446.6	388.3	378.1	351.5	345.5
17.5°	704.5	677.3	647.0	613.6	583.3	549.0	487.3	417.2	399.3	368.3	360.7
20°	772.0	744.2	712.3	679.6	641.7	602.7	528.7	445.3	418.3	382.4	372.3
22.5°	833.3	809.5	777.6	739.9	701.8	657.6	571.0	473.4	434.8	393.1	380.3
25°	897.9	876.1	844.4	808.2	763.7	714.8	614.6	500.4	448.2	398.8	383.0
27.5°	963.2	944.5	914.7	876.6	828.9	774.5	658.8	525.0	458.9	400.7	381.7
30°	1032.8	1018.4	990.8	948.4	900.1	840.0	707.1	549.3	465.6	398.2	375.3
32.5°	1098.7	1098.3	1073.8	1029.7	977.7	911.6	757.9	573.7	469.0	391.0	364.4
35°	1167.3	1176.9	1158.5	1116.6	1061.7	988.2	814.1	599.9	469.4	378.1	350.2
37.5°	1245.2	1262.2	1254.0	1214.1	1156.6	1075.7	880.1	629.3	467.8	360.4	329.4
40°	1333.9	1357.1	1356.9	1323.4	1261.8	1173.6	956.9	662.1	464.7	338.3	305.0
42.5°	1435.2	1463.0	1470.6	1437.6	1375.2	1280.7	1044.6	698.3	459.6	316.4	279.1
45°	1551.4	1575.7	1590.3	1559.5	1496.9	1397.3	1145.7	739.2	453.3	288.1	249.5
47.5°	1675.6	1704.1	1725.7	1699.4	1632.7	1530.2	1265.3	792.2	450.9	255.9	217.5
50°	1829.7	1859.0	1905.9	1894.0	1857.4	1775.0	1518.2	917.2	451.8	225.5	190.7
52.5°	2212.0	2279.4	2338.6	2312.2	2225.3	2083.8	1723.8	986.7	432.3	200.5	172.0
55°	2327.5	2404.0	2491.3	2480.4	2396.9	2254.2	1886.4	1044.6	413.4	182.4	160.0
57.5°	2529.4	2619.5	2741.7	2739.4	2637.1	2476.4	2095.4	1114.2	405.1	171.8	153.9
60°	2743.2	2858.0	3026.8	3053.2	2941.9	2774.9	2342.6	1199.4	406.4	165.9	150.3
62.5°	2899.3	3067.9	3313.4	3392.2	3261.1	3077.0	2599.1	1284.8	399.3	159.2	146.2
65°	2908.9	3151.7	3499.8	3622.5	3489.8	3253.2	2689.5	1268.0	357.3	150.1	139.3
67.5°	2675.7	2991.9	3415.0	3549.6	3413.9	3144.5	2531.0	1108.6	290.5	134.2	127.7
70°	2228.5	2595.6	3034.7	3184.8	3072.6	2799.9	2202.7	885.5	217.0	113.2	110.3
72.5°	1722.2	2064.5	2463.3	2602.1	2516.3	2276.7	1737.3	645.3	155.0	91.8	89.6
75°	1231.1	1522.6	1812.2	1865.2	1780.5	1560.4	1127.3	403.1	108.7	75.3	72.0
77.5°	762.4	951.9	1055.9	987.9	879.9	731.4	458.9	199.2	72.3	61.4	58.0
80°	338.3	397.1	370.7	330.3	260.9	214.4	140.1	88.4	46.6	47.3	45.5
82.5°	113.7	120.4	117.0	116.3	104.9	91.8	59.5	38.3	26.1	30.4	29.6
85°	55.4	58.0	58.3	60.4	52.5	40.9	16.1	15.1	11.1	16.3	17.0
87.5°	16.8	17.0	15.5	16.8	13.6	9.3	3.1	4.2	2.1	4.0	4.0
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):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	317.6	317.6	317.6	317.6	317.6	317.6	317.6	317.6	317.6	317.6	317.6
2.5°	306.6	305.7	304.0	302.2	301.7	299.3	298.6	297.5	296.8	295.6	294.6
5°	303.7	302.2	300.4	298.1	298.1	295.0	293.6	292.0	292.0	290.1	289.1
7.5°	306.6	304.4	302.4	300.6	301.2	297.5	296.1	294.6	294.5	292.4	291.4
10°	314.4	312.4	309.8	307.9	307.3	304.3	302.5	300.6	299.1	297.7	296.4
12.5°	326.7	323.7	320.5	316.7	314.9	312.4	309.8	307.0	303.7	302.4	300.4
15°	341.0	336.4	332.1	327.2	322.8	320.1	316.7	312.3	307.8	306.0	303.1
17.5°	352.9	348.1	341.7	336.0	328.1	325.9	321.1	315.7	308.5	307.8	303.5
20°	362.9	355.5	347.9	340.8	328.7	327.5	321.6	315.2	305.0	305.0	299.9
22.5°	368.6	358.3	349.3	339.9	324.7	323.7	316.8	309.3	296.8	297.2	291.0
25°	369.6	357.2	345.8	334.6	317.1	315.5	306.6	298.4	284.7	283.8	277.1
27.5°	365.8	351.3	338.0	324.6	305.7	302.2	292.4	282.5	269.0	266.6	259.7
30°	357.2	340.2	325.2	309.6	289.9	284.3	274.0	263.9	250.2	247.2	240.6
32.5°	343.4	324.1	307.5	291.9	270.0	262.9	252.8	242.7	229.3	227.1	221.1
35°	325.2	303.5	286.1	269.5	247.7	240.3	230.5	221.7	209.6	208.6	204.5
37.5°	302.4	279.7	261.0	245.2	224.5	220.8	210.7	204.3	194.3	195.1	193.0
40°	276.5	253.4	235.7	221.7	203.7	200.5	194.5	189.5	180.9	183.4	183.8
42.5°	250.4	227.4	211.2	198.6	183.3	181.2	177.0	174.1	167.7	172.7	174.9
45°	220.8	199.3	185.6	176.0	164.6	164.6	162.6	162.2	157.8	165.1	167.2
47.5°	192.1	175.3	165.7	160.0	152.1	155.8	155.0	156.9	153.6	161.1	163.0
50°	170.4	158.8	152.9	150.1	144.5	150.3	151.8	154.4	151.5	158.1	159.4
52.5°	156.7	148.9	145.7	144.9	141.0	148.3	150.6	152.9	149.7	155.8	155.4
55°	148.9	143.9	142.7	144.1	141.0	148.0	150.3	152.1	149.2	153.4	153.3
57.5°	146.2	143.4	144.1	146.2	144.1	149.8	151.1	152.9	150.1	152.1	152.9
60°	146.0	146.0	148.7	151.5	150.1	154.4	155.0	154.8	152.3	152.5	152.9
62.5°	144.5	148.0	152.7	157.2	156.7	161.9	162.2	159.2	157.2	154.8	154.1
65°	140.1	146.0	152.7	158.8	159.7	167.7	168.5	165.6	164.1	160.2	157.2
67.5°	130.3	137.8	145.7	153.3	154.8	165.6	167.7	168.8	169.5	166.9	163.0
70°	113.7	121.5	129.6	138.2	140.6	152.5	156.9	162.2	166.5	170.1	168.8
72.5°	92.5	99.5	106.5	114.4	117.9	130.3	136.2	145.4	152.1	161.5	165.6
75°	73.4	77.7	81.8	86.7	89.6	101.7	108.9	120.1	128.9	142.2	151.1
77.5°	57.9	59.8	62.1	64.0	65.2	72.0	77.9	89.0	99.4	116.2	129.1
80°	44.6	45.8	46.0	46.6	46.2	49.4	51.6	58.3	67.2	83.7	99.2
82.5°	28.7	29.6	30.1	31.3	28.9	33.1	34.6	35.3	39.9	52.0	62.9
85°	16.1	16.3	16.6	17.0	13.7	18.0	18.1	17.0	16.6	21.5	24.3
87.5°	4.0	3.8	4.0	4.0	1.6	3.8	3.8	2.5	1.8	3.6	2.9
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):

	135°	145°	155°	165°	175°	180°
0°	317.6	317.6	317.6	317.6	317.6	317.6
2.5°	292.6	292.0	292.4	291.2	290.7	291.0
5°	287.9	287.0	287.0	286.3	285.3	285.3
7.5°	290.1	288.1	287.5	286.1	284.7	284.9
10°	293.2	290.1	287.6	285.7	284.0	284.0
12.5°	295.5	289.6	286.1	283.2	281.3	281.3
15°	295.8	287.0	281.9	278.8	276.9	276.9
17.5°	293.0	281.9	275.3	271.4	269.3	269.8
20°	286.1	272.2	264.6	260.4	258.4	258.5
22.5°	275.2	259.3	250.4	245.4	243.4	243.4
25°	260.1	242.9	233.4	229.3	227.5	227.5
27.5°	243.3	225.5	217.0	214.1	212.9	212.9
30°	224.0	209.3	203.2	201.2	199.3	199.3
32.5°	208.0	197.4	195.4	192.5	187.7	187.4
35°	195.1	193.9	192.3	184.0	177.0	176.0
37.5°	188.1	195.1	185.0	170.4	164.7	164.6
40°	184.4	190.9	173.3	166.2	165.6	165.6
42.5°	175.6	180.2	172.6	168.5	168.5	168.8
45°	166.2	170.1	174.1	170.7	171.8	172.0
47.5°	159.7	167.7	174.1	171.1	173.5	174.9
50°	153.6	165.3	170.7	170.7	173.3	173.5
52.5°	152.3	162.1	167.4	170.0	170.1	169.1
55°	152.5	159.4	164.7	168.2	166.6	166.6
57.5°	152.3	158.1	162.8	163.9	164.6	164.6
60°	152.5	156.2	160.0	159.4	161.9	161.9
62.5°	153.3	153.6	155.4	155.0	158.6	158.6
65°	154.8	150.3	149.2	149.7	153.9	153.6
67.5°	157.8	146.0	142.2	142.4	148.5	147.6
70°	162.2	139.9	134.2	132.9	143.1	141.6
72.5°	163.8	132.9	124.1	122.6	128.6	124.1
75°	157.2	127.3	113.0	108.4	105.8	104.5
77.5°	140.1	123.7	101.7	91.8	87.9	87.0
80°	116.2	116.6	86.7	75.1	87.1	87.0
82.5°	87.7	100.7	69.4	65.0	63.2	52.7
85°	42.4	75.7	53.4	44.7	26.8	25.4
87.5°	3.8	31.7	30.8	20.0	9.2	8.7
90°	0.0	0.0	0.0	0.0	0.0	0.0

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