

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: P196753

Luminaire Tested: **NAV-AF-01-D-UNV-T2R-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196753
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-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 3000K, 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: 4079.7 lumens
Efficiency: N/A
Efficacy: 120.0 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 (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

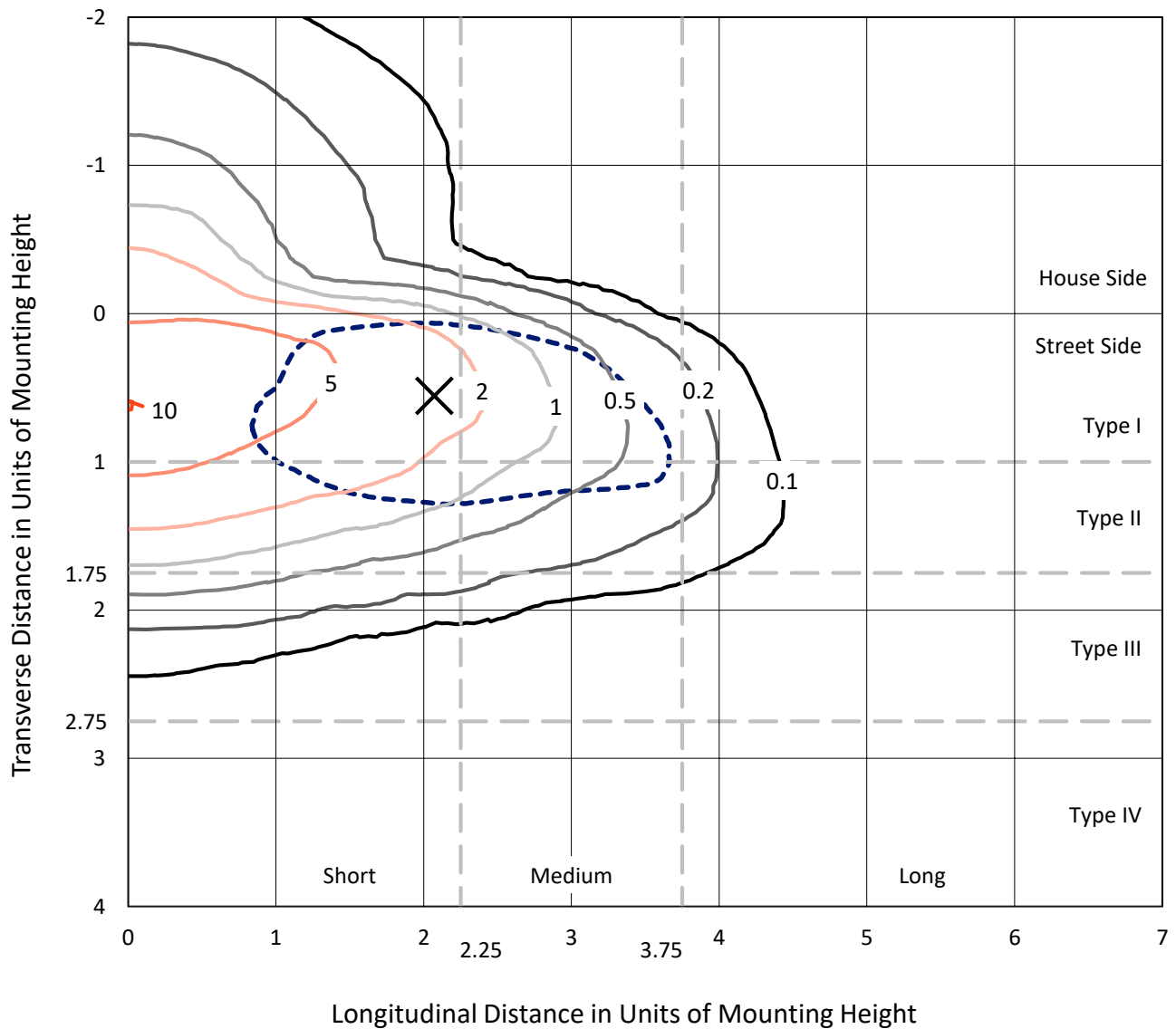


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Iso-Footcandle Lines of Horizontal Illumination

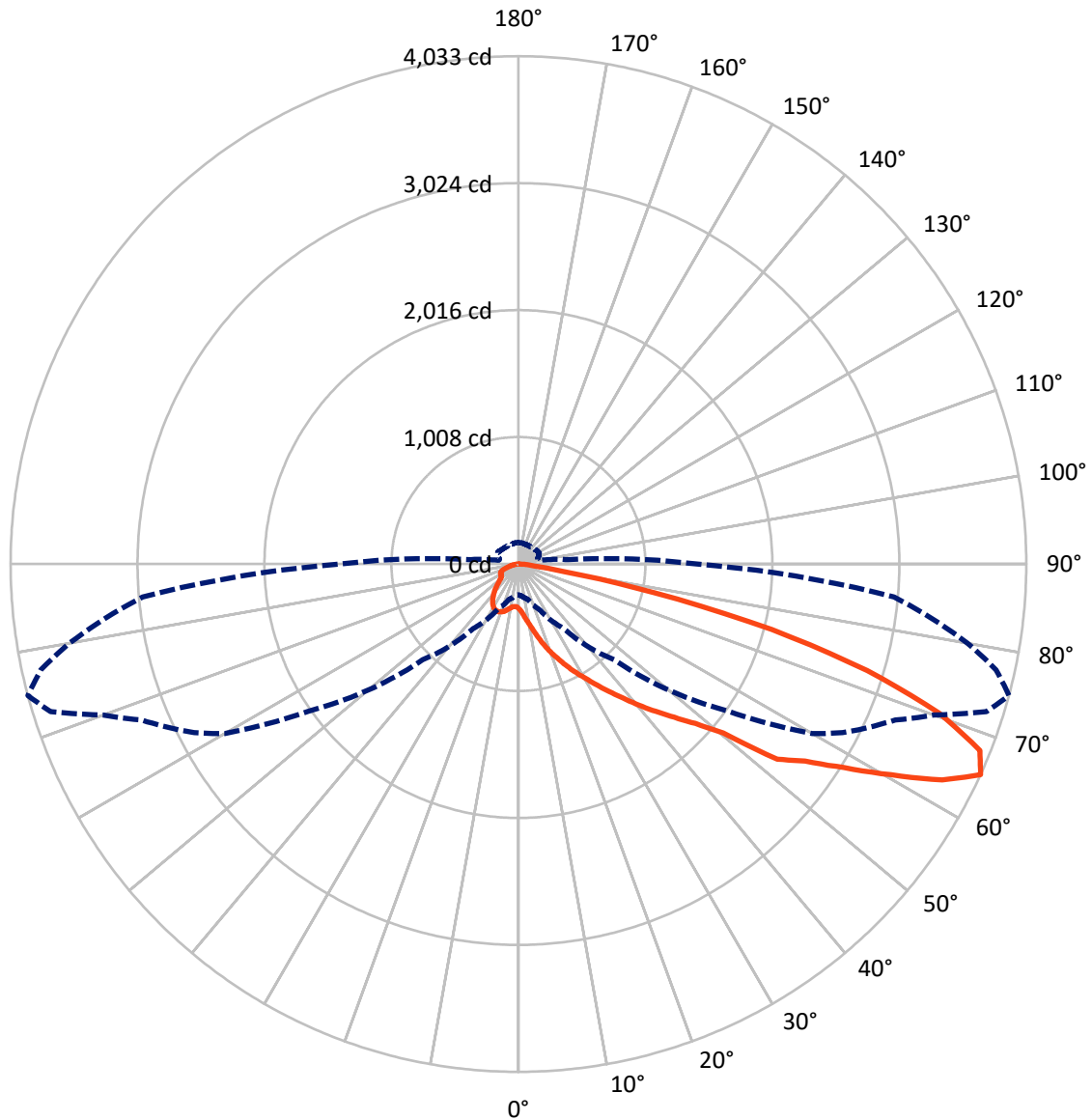
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.1 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	613.0	0.0	613.0
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	3466.7	0.0	3466.7
	% Fixture	85.0	0.0	85.0
Total	Lumens	4079.7	0.0	4079.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.7	1.0
10°-20°	159.4	3.9
20°-30°	321.7	7.9
30°-40°	546.3	13.4
40°-50°	761.9	18.7
50°-60°	933.9	22.9
60°-70°	878.6	21.5
70°-80°	385.3	9.4
80°-90°	51.0	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°	4079.7	100.0
0°-180°	4079.7	100.0

Coefficient of Utilization



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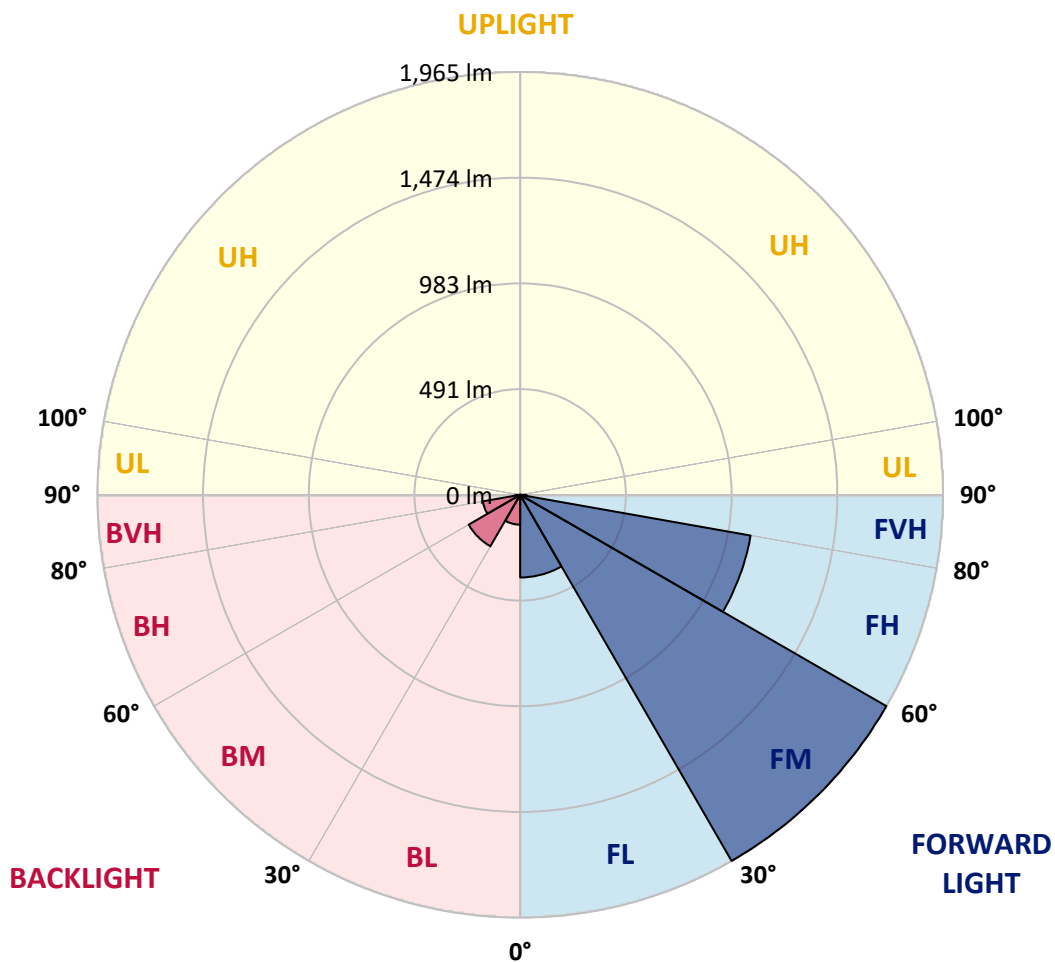
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	384.0	9.4			
FM	(30°-60°)	1965.4	48.2			
FH	(60°-80°)	1087.7	26.7			G1/1800
FVH	(80°-90°)	29.6	0.7			G1/100
BL	(0°-30°)	138.8	3.4	B1/500		
BM	(30°-60°)	276.6	6.8	B1/1000		
BH	(60°-80°)	176.2	4.3	B1/500		G1/500
BVH	(80°-90°)	21.4	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°	353.5	353.5	353.5	353.5	353.5	353.5	353.5	353.5	353.5	353.5	353.5
2.5°	445.1	439.9	440.5	433.2	422.5	410.9	401.2	396.1	391.5	390.4	383.1
5°	582.2	575.7	573.3	556.6	531.8	502.1	472.9	461.4	452.2	446.5	432.3
7.5°	694.3	690.8	687.8	672.5	647.8	609.8	562.6	545.8	530.2	513.1	496.2
10°	770.6	769.3	768.0	757.2	736.9	703.8	653.0	634.6	615.1	593.3	571.2
12.5°	828.1	828.1	829.2	820.4	808.0	782.6	736.3	719.2	699.5	676.7	651.4
15°	866.9	867.8	873.3	875.9	869.4	853.1	812.6	797.6	778.9	756.3	731.4
17.5°	892.5	894.7	902.7	911.2	919.5	913.9	883.7	869.7	852.9	832.1	808.7
20°	952.2	949.7	949.9	947.3	959.6	963.8	947.3	935.6	922.1	903.1	881.9
22.5°	1077.7	1072.6	1060.0	1027.5	1012.8	1011.2	1001.3	995.1	984.7	972.7	951.4
25°	1241.0	1235.4	1210.1	1156.7	1112.6	1071.9	1053.7	1049.8	1043.1	1035.0	1019.7
27.5°	1410.0	1403.8	1371.4	1303.9	1246.3	1164.0	1107.5	1102.2	1096.0	1092.6	1085.4
30°	1558.8	1552.0	1520.2	1451.6	1382.0	1283.9	1179.9	1161.7	1151.0	1152.0	1147.9
32.5°	1689.2	1683.3	1647.5	1577.7	1507.1	1411.8	1273.8	1245.5	1221.6	1212.8	1215.9
35°	1798.9	1793.4	1754.1	1683.9	1612.7	1533.6	1394.7	1352.2	1313.2	1288.8	1286.0
37.5°	1863.2	1860.0	1832.6	1772.8	1702.3	1644.2	1530.1	1482.9	1425.7	1390.1	1374.5
40°	1859.6	1863.0	1858.3	1831.3	1776.5	1734.2	1671.4	1624.6	1568.6	1515.7	1484.0
42.5°	1806.6	1811.3	1832.3	1846.4	1831.5	1805.8	1794.7	1759.9	1709.6	1653.5	1609.6
45°	1734.0	1738.1	1765.3	1816.0	1858.3	1865.5	1902.6	1885.3	1842.6	1794.9	1746.6
47.5°	1622.6	1630.7	1662.3	1742.8	1843.4	1913.5	1993.2	2001.3	1976.6	1937.1	1892.1
50°	1461.5	1472.0	1516.4	1630.9	1787.4	1962.9	2128.0	2158.5	2148.7	2108.7	2063.1
52.5°	1296.4	1307.0	1366.2	1487.9	1697.2	1983.0	2260.6	2338.9	2395.5	2436.8	2444.7
55°	1124.6	1136.6	1201.5	1341.4	1576.7	1957.4	2355.3	2444.2	2501.6	2544.7	2562.1
57.5°	930.7	944.2	1007.1	1148.7	1406.3	1854.1	2460.6	2586.8	2672.2	2738.6	2776.0
60°	708.2	725.2	790.3	933.1	1182.7	1656.4	2507.6	2694.3	2830.0	2929.6	2988.8
62.5°	448.9	466.1	533.8	682.1	928.0	1386.2	2374.8	2647.1	2878.4	3025.9	3134.4
65°	245.0	252.5	290.2	401.7	625.7	1075.5	2037.9	2358.9	2692.3	2901.3	3067.9
67.5°	183.8	184.7	188.7	215.9	333.2	726.1	1593.3	1887.4	2257.8	2526.5	2725.6
70°	160.9	160.9	161.3	161.7	181.0	393.5	1079.4	1350.1	1689.5	1961.5	2208.9
72.5°	144.3	142.7	142.2	139.1	141.7	201.7	587.6	830.8	1117.0	1422.2	1653.0
75°	124.5	124.3	124.3	121.2	122.8	141.9	254.9	398.7	620.6	904.7	1131.8
77.5°	107.7	105.9	106.2	104.4	109.3	108.7	121.0	164.3	270.2	475.2	663.6
80°	88.7	87.5	88.3	87.2	94.9	80.5	81.5	100.4	134.2	208.3	293.8
82.5°	65.7	66.2	71.1	70.6	80.0	54.2	59.6	75.0	90.3	103.8	112.9
85°	38.5	39.3	51.2	53.7	58.7	28.5	36.6	44.7	50.4	55.8	58.1
87.5°	4.2	5.5	28.5	29.3	26.2	8.5	14.7	18.7	20.0	21.3	18.7
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°	353.5	353.5	353.5	353.5	353.5	353.5	353.5	353.5	353.5	353.5	353.5
2.5°	380.8	377.4	373.7	371.7	367.9	364.9	359.3	354.5	349.3	345.7	344.1
5°	425.3	417.4	408.7	402.5	394.8	388.0	375.0	359.5	354.5	344.1	341.6
7.5°	483.5	468.9	454.4	442.5	429.1	417.8	396.1	367.9	364.4	347.8	344.1
10°	551.8	530.5	508.9	490.5	470.8	453.7	421.5	382.1	378.1	356.8	353.2
12.5°	628.0	602.1	574.3	546.9	523.5	499.4	455.5	403.8	397.6	372.5	367.5
15°	706.7	678.7	646.5	613.3	584.4	552.6	497.2	432.3	420.9	391.3	384.6
17.5°	784.3	754.0	720.2	683.1	649.3	611.2	542.5	464.4	444.5	410.0	401.5
20°	859.4	828.4	792.9	756.5	714.4	670.9	588.6	495.7	465.6	425.7	414.4
22.5°	927.6	901.1	865.6	823.7	781.2	732.1	635.6	527.0	484.0	437.6	423.3
25°	999.5	975.3	940.0	899.7	850.2	795.7	684.2	557.0	498.9	444.0	426.4
27.5°	1072.2	1051.4	1018.2	975.8	922.7	862.2	733.4	584.4	510.8	446.1	424.9
30°	1149.7	1133.7	1103.0	1055.8	1002.0	935.1	787.2	611.5	518.3	443.3	417.8
32.5°	1223.1	1222.6	1195.4	1146.3	1088.4	1014.8	843.7	638.7	522.1	435.3	405.7
35°	1299.5	1310.1	1289.6	1243.0	1181.9	1100.1	906.3	667.8	522.5	420.9	389.8
37.5°	1386.2	1405.1	1396.0	1351.6	1287.5	1197.5	979.7	700.5	520.8	401.2	366.7
40°	1484.9	1510.7	1510.5	1473.2	1404.6	1306.5	1065.2	737.1	517.3	376.6	339.5
42.5°	1597.7	1628.6	1637.1	1600.3	1530.9	1425.7	1162.9	777.3	511.6	352.2	310.7
45°	1727.0	1754.1	1770.3	1736.0	1666.4	1555.5	1275.4	822.9	504.6	320.7	277.7
47.5°	1865.3	1897.0	1921.1	1891.8	1817.5	1703.4	1408.5	881.9	501.9	284.9	242.1
50°	2036.8	2069.5	2121.7	2108.4	2067.7	1975.9	1690.1	1021.0	503.0	251.0	212.3
52.5°	2462.4	2537.4	2603.4	2574.0	2477.2	2319.7	1919.0	1098.4	481.2	223.2	191.5
55°	2591.0	2676.1	2773.3	2761.2	2668.2	2509.4	2099.9	1162.9	460.2	203.0	178.1
57.5°	2815.7	2916.1	3052.1	3049.5	2935.6	2756.7	2332.6	1240.3	451.0	191.3	171.3
60°	3053.7	3181.6	3369.5	3398.8	3275.0	3089.0	2607.8	1335.2	452.4	184.7	167.3
62.5°	3227.5	3415.2	3688.5	3776.2	3630.3	3425.3	2893.3	1430.3	444.5	177.2	162.7
65°	3238.2	3508.5	3896.0	4032.6	3884.9	3621.5	2994.0	1411.6	397.8	167.1	155.1
67.5°	2978.6	3330.6	3801.6	3951.4	3800.4	3500.5	2817.5	1234.1	323.4	149.4	142.2
70°	2480.8	2889.4	3378.3	3545.3	3420.4	3116.9	2452.1	985.7	241.6	126.0	122.8
72.5°	1917.2	2298.2	2742.2	2896.7	2801.2	2534.4	1934.0	718.4	172.6	102.2	99.7
75°	1370.5	1695.0	2017.4	2076.3	1982.1	1737.0	1254.9	448.7	121.0	83.8	80.2
77.5°	848.7	1059.7	1175.4	1099.7	979.5	814.2	510.8	221.7	80.5	68.3	64.6
80°	376.6	442.0	412.7	367.7	290.4	238.7	156.0	98.4	51.9	52.7	50.6
82.5°	126.6	134.0	130.2	129.5	116.8	102.2	66.2	42.6	29.1	33.8	33.0
85°	61.7	64.6	64.9	67.2	58.4	45.5	17.9	16.8	12.4	18.1	18.9
87.5°	18.7	18.9	17.2	18.7	15.1	10.4	3.4	4.7	2.3	4.4	4.4
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°	353.5	353.5	353.5	353.5	353.5	353.5	353.5	353.5	353.5	353.5	353.5
2.5°	341.3	340.3	338.4	336.4	335.9	333.2	332.4	331.2	330.4	329.1	328.0
5°	338.1	336.4	334.4	331.9	331.9	328.4	326.8	325.1	325.1	322.9	321.8
7.5°	341.3	338.9	336.6	334.6	335.3	331.2	329.6	328.0	327.8	325.5	324.4
10°	350.0	347.8	344.9	342.8	342.1	338.7	336.8	334.6	333.0	331.4	329.9
12.5°	363.7	360.4	356.8	352.5	350.6	347.8	344.9	341.8	338.1	336.6	334.4
15°	379.6	374.5	369.7	364.2	359.3	356.3	352.5	347.6	342.6	340.6	337.4
17.5°	392.9	387.5	380.4	374.0	365.2	362.8	357.4	351.4	343.4	342.6	337.9
20°	404.0	395.7	387.3	379.4	365.9	364.6	358.0	350.9	339.5	339.5	333.8
22.5°	410.3	398.9	388.8	378.4	361.5	360.4	352.7	344.3	330.4	330.9	323.9
25°	411.4	397.6	384.9	372.5	353.0	351.2	341.3	332.2	316.9	315.9	308.5
27.5°	407.2	391.1	376.3	361.3	340.3	336.4	325.5	314.5	299.5	296.8	289.1
30°	397.6	378.7	362.0	344.7	322.7	316.5	305.0	293.8	278.5	275.2	267.8
32.5°	382.3	360.8	342.3	324.9	300.6	292.7	281.4	270.2	255.3	252.8	246.1
35°	362.0	337.9	318.5	300.0	275.7	267.5	256.6	246.8	233.3	232.2	227.6
37.5°	336.6	311.4	290.6	273.0	249.9	245.8	234.6	227.4	216.3	217.2	214.9
40°	307.8	282.1	262.4	246.8	226.8	223.2	216.5	211.0	201.4	204.2	204.6
42.5°	278.7	253.1	235.1	221.1	204.0	201.7	197.0	193.8	186.7	192.3	194.7
45°	245.8	221.9	206.6	195.9	183.2	183.2	181.0	180.6	175.7	183.8	186.1
47.5°	213.8	195.1	184.5	178.1	169.3	173.4	172.6	174.7	171.0	179.3	181.4
50°	189.7	176.8	170.2	167.1	160.9	167.3	169.0	171.9	168.7	176.0	177.5
52.5°	174.4	165.8	162.2	161.3	157.0	165.1	167.7	170.2	166.6	173.4	173.0
55°	165.8	160.2	158.9	160.4	157.0	164.8	167.3	169.3	166.1	170.8	170.6
57.5°	162.7	159.6	160.4	162.7	160.4	166.8	168.2	170.2	167.1	169.3	170.2
60°	162.5	162.5	165.5	168.7	167.1	171.9	172.6	172.3	169.5	169.8	170.2
62.5°	160.9	164.8	170.0	175.0	174.4	180.2	180.6	177.2	175.0	172.3	171.5
65°	156.0	162.5	170.0	176.8	177.8	186.7	187.6	184.3	182.7	178.3	175.0
67.5°	145.1	153.4	162.2	170.6	172.3	184.3	186.7	187.9	188.7	185.8	181.4
70°	126.6	135.3	144.3	153.9	156.5	169.8	174.7	180.6	185.3	189.4	187.9
72.5°	103.0	110.8	118.6	127.4	131.3	145.1	151.6	161.9	169.3	179.8	184.3
75°	81.7	86.5	91.1	96.5	99.7	113.2	121.2	133.7	143.5	158.3	168.2
77.5°	64.4	66.6	69.1	71.3	72.6	80.2	86.7	99.1	110.6	129.3	143.7
80°	49.6	51.0	51.2	51.9	51.4	55.0	57.4	64.9	74.8	93.2	110.4
82.5°	31.9	33.0	33.5	34.8	32.2	36.8	38.5	39.3	44.4	57.9	70.0
85°	17.9	18.1	18.5	18.9	15.3	20.0	20.2	18.9	18.5	23.9	27.0
87.5°	4.4	4.2	4.4	4.4	1.8	4.2	4.2	2.8	2.0	4.0	3.2
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):

	135°	145°	155°	165°	175°	180°
0°	353.5	353.5	353.5	353.5	353.5	353.5
2.5°	325.7	325.1	325.5	324.2	323.6	323.9
5°	320.5	319.5	319.5	318.7	317.6	317.6
7.5°	322.9	320.7	320.0	318.5	316.9	317.2
10°	326.4	322.9	320.2	318.0	316.1	316.1
12.5°	328.9	322.4	318.5	315.3	313.2	313.2
15°	329.3	319.5	313.8	310.4	308.3	308.3
17.5°	326.2	313.8	306.5	302.1	299.8	300.3
20°	318.5	303.0	294.6	289.9	287.6	287.8
22.5°	306.3	288.6	278.7	273.2	271.0	271.0
25°	289.6	270.4	259.8	255.3	253.3	253.3
27.5°	270.8	251.0	241.6	238.3	237.0	237.0
30°	249.4	233.0	226.2	224.0	221.9	221.9
32.5°	231.5	219.8	217.5	214.3	208.9	208.6
35°	217.2	215.9	214.1	204.8	197.0	195.9
37.5°	209.4	217.2	205.9	189.7	183.4	183.2
40°	205.3	212.5	192.9	185.0	184.3	184.3
42.5°	195.5	200.6	192.1	187.6	187.6	187.9
45°	185.0	189.4	193.8	190.0	191.3	191.5
47.5°	177.8	186.7	193.8	190.5	193.1	194.7
50°	171.0	184.0	190.0	190.0	192.9	193.1
52.5°	169.5	180.4	186.4	189.2	189.4	188.2
55°	169.8	177.5	183.4	187.2	185.5	185.5
57.5°	169.5	176.0	181.2	182.5	183.2	183.2
60°	169.8	173.9	178.1	177.5	180.2	180.2
62.5°	170.6	171.0	173.0	172.6	176.5	176.5
65°	172.3	167.3	166.1	166.6	171.3	171.0
67.5°	175.7	162.5	158.3	158.5	165.3	164.3
70°	180.6	155.7	149.4	147.9	159.3	157.6
72.5°	182.3	147.9	138.1	136.5	143.2	138.1
75°	175.0	141.7	125.8	120.7	117.8	116.3
77.5°	156.0	137.7	113.2	102.2	97.9	96.8
80°	129.3	129.8	96.5	83.6	97.0	96.8
82.5°	97.6	112.1	77.3	72.4	70.4	58.7
85°	47.2	84.3	59.4	49.8	29.8	28.3
87.5°	4.2	35.3	34.3	22.3	10.2	9.7
90°	0.0	0.0	0.0	0.0	0.0	0.0

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