

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: P197233

Luminaire Tested: **NAV-AF-01-D-UNV-T2R-8030-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197233  
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-8030-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(1) 80 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: 3442 lumens  
Efficiency: N/A  
Efficacy: 101.2 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

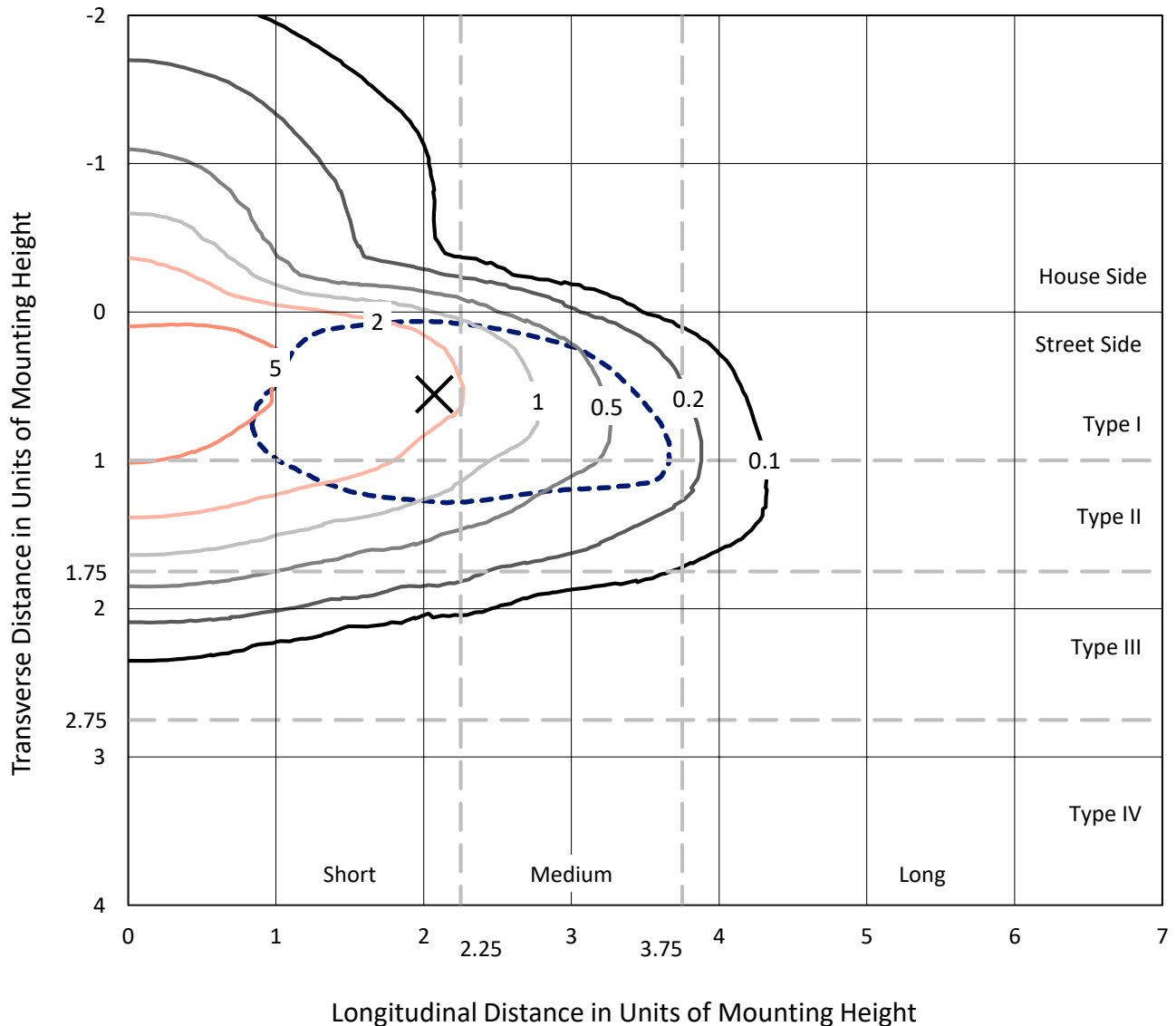
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

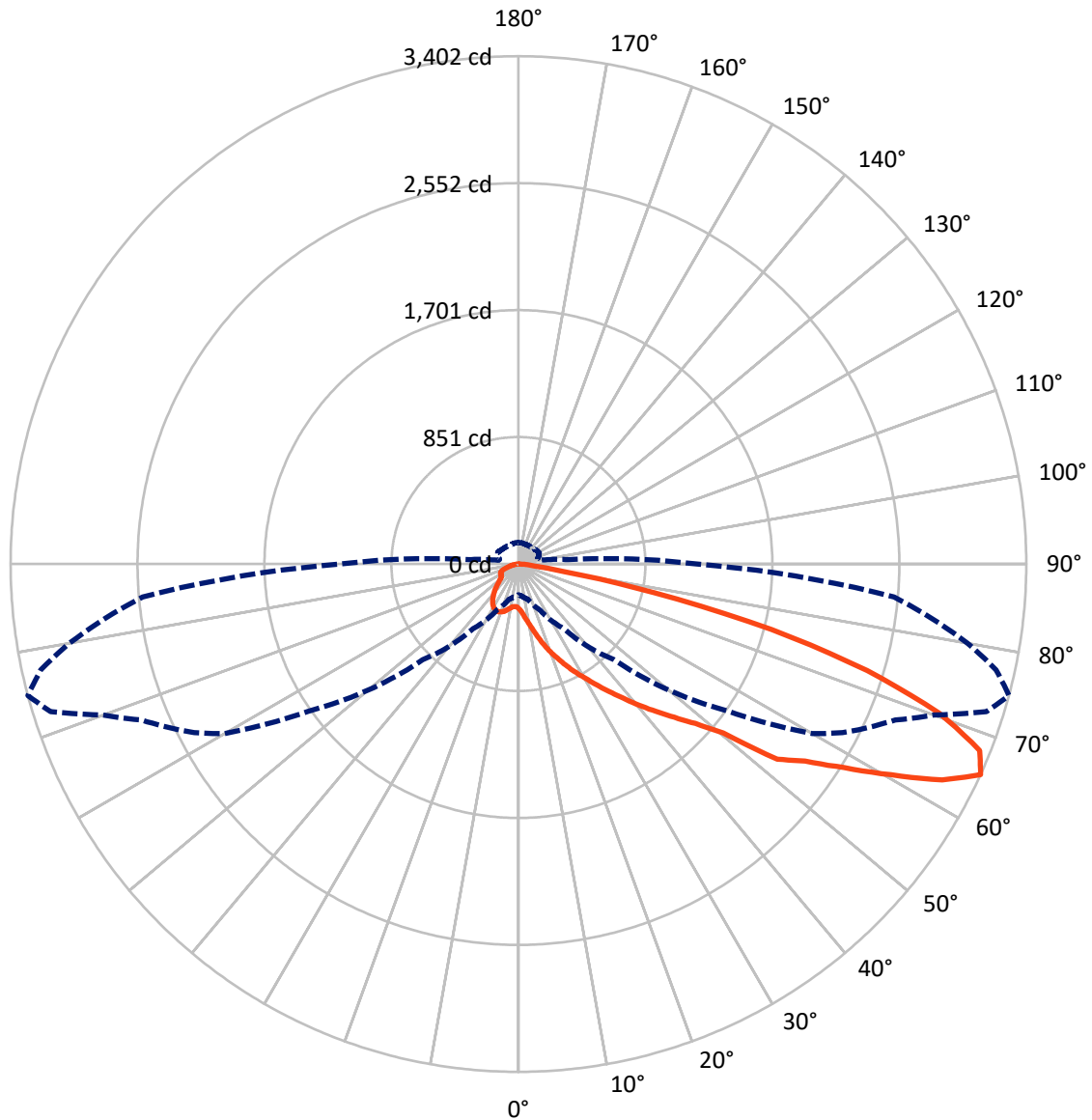
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.6 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
<b>House Side</b>	Lumens	517.2	0.0	517.2
	% Fixture	15.0	0.0	15.0
<b>Street Side</b>	Lumens	2924.8	0.0	2924.8
	% Fixture	85.0	0.0	85.0
<b>Total</b>	Lumens	3442.0	0.0	3442.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	35.2	1.0
10°-20°	134.5	3.9
20°-30°	271.4	7.9
30°-40°	460.9	13.4
40°-50°	642.8	18.7
50°-60°	787.9	22.9
60°-70°	741.3	21.5
70°-80°	325.0	9.4
80°-90°	43.0	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°	3442.0	100.0
0°-180°	3442.0	100.0



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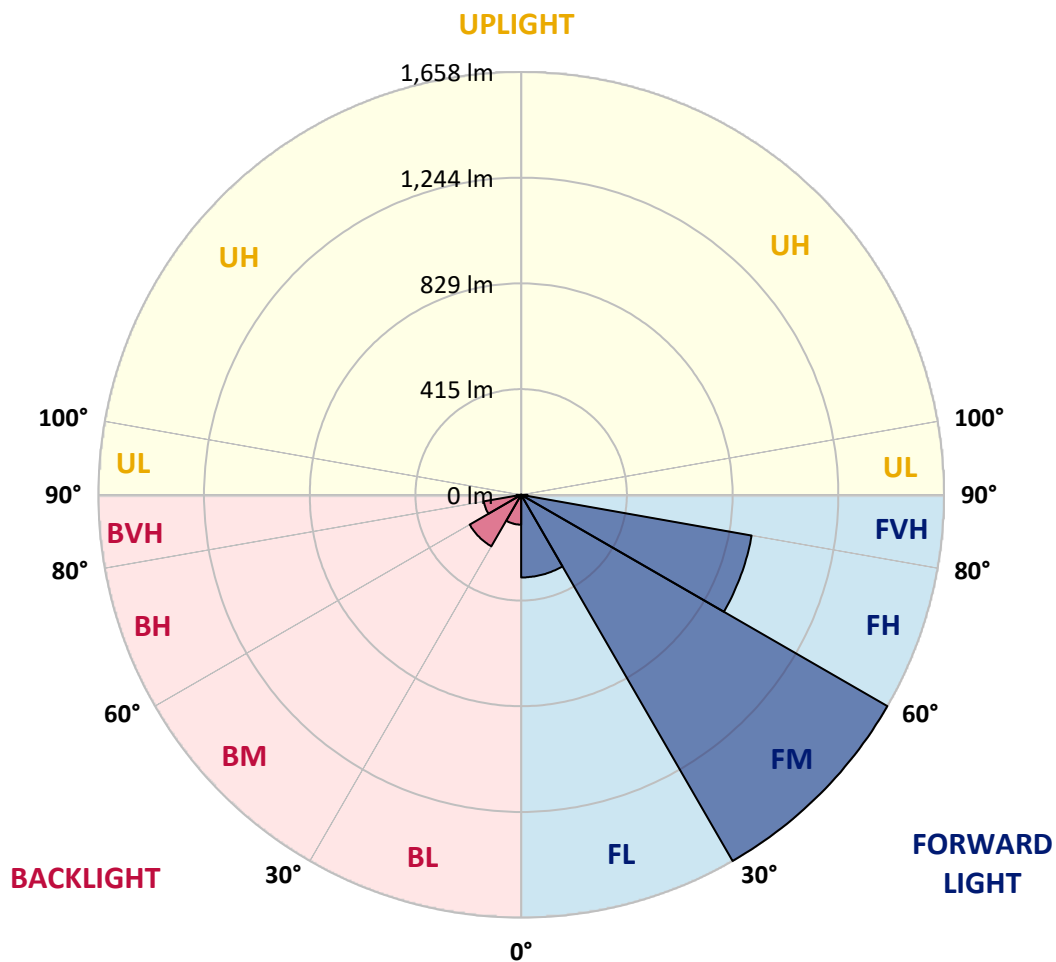
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	324.0	9.4			
FM	(30°-60°)	1658.2	48.2			
FH	(60°-80°)	917.7	26.7			G1/1800
FVH	(80°-90°)	24.9	0.7			G1/100
BL	(0°-30°)	117.1	3.4	B1/500		
BM	(30°-60°)	233.4	6.8	B1/1000		
BH	(60°-80°)	148.7	4.3	B1/500		G1/500
BVH	(80°-90°)	18.1	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°	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2
2.5°	375.5	371.1	371.6	365.5	356.5	346.6	338.5	334.1	330.4	329.3	323.2
5°	491.1	485.7	483.7	469.7	448.7	423.7	399.0	389.3	381.4	376.6	364.8
7.5°	585.7	582.9	580.3	567.3	546.5	514.6	474.7	460.5	447.3	432.9	418.7
10°	650.1	649.0	647.9	638.9	621.6	593.8	550.9	535.4	518.9	500.6	481.9
12.5°	698.7	698.7	699.6	692.1	681.6	660.2	621.2	606.7	590.1	570.8	549.6
15°	731.3	732.2	736.8	739.0	733.5	719.7	685.6	672.9	657.1	638.1	617.0
17.5°	753.0	754.8	761.6	768.8	775.8	771.0	745.6	733.7	719.5	702.0	682.3
20°	803.4	801.2	801.4	799.2	809.5	813.2	799.2	789.4	778.0	762.0	744.0
22.5°	909.1	905.0	894.2	866.9	854.4	853.1	844.8	839.5	830.7	820.7	802.7
25°	1047.1	1042.3	1021.0	975.9	938.7	904.3	889.0	885.7	880.0	873.2	860.3
27.5°	1189.6	1184.4	1157.0	1100.1	1051.5	982.1	934.3	929.9	924.7	921.8	915.7
30°	1315.1	1309.4	1282.5	1224.7	1166.0	1083.2	995.4	980.1	971.1	972.0	968.5
32.5°	1425.2	1420.2	1390.0	1331.1	1271.5	1191.2	1074.7	1050.8	1030.7	1023.2	1025.8
35°	1517.6	1513.0	1480.0	1420.6	1360.6	1293.9	1176.7	1140.8	1108.0	1087.4	1085.0
37.5°	1571.9	1569.3	1546.1	1495.7	1436.2	1387.1	1291.0	1251.2	1202.8	1172.8	1159.6
40°	1568.9	1571.7	1567.8	1545.0	1498.8	1463.1	1410.1	1370.7	1323.4	1278.7	1252.0
42.5°	1524.2	1528.1	1545.9	1557.7	1545.2	1523.5	1514.1	1484.8	1442.3	1395.0	1358.0
45°	1462.9	1466.4	1489.4	1532.1	1567.8	1573.9	1605.2	1590.6	1554.6	1514.4	1473.6
47.5°	1369.0	1375.7	1402.5	1470.3	1555.3	1614.4	1681.6	1688.4	1667.6	1634.3	1596.2
50°	1233.0	1242.0	1279.4	1376.0	1508.0	1656.0	1795.3	1821.1	1812.8	1779.1	1740.5
52.5°	1093.7	1102.7	1152.6	1255.3	1431.8	1673.1	1907.2	1973.3	2021.0	2055.8	2062.6
55°	948.8	958.8	1013.6	1131.8	1330.2	1651.4	1987.1	2062.2	2110.6	2146.9	2161.6
57.5°	785.2	796.6	849.6	969.1	1186.6	1564.3	2076.0	2182.4	2254.4	2310.5	2342.0
60°	597.6	611.8	666.7	787.2	997.8	1397.4	2115.6	2273.1	2387.6	2471.7	2521.6
62.5°	378.8	393.3	450.4	575.4	783.0	1169.5	2003.5	2233.2	2428.5	2552.9	2644.4
65°	206.7	213.1	244.8	339.0	527.9	907.4	1719.3	1990.2	2271.5	2447.8	2588.4
67.5°	155.0	155.9	159.2	182.2	281.1	612.7	1344.2	1592.3	1904.8	2131.6	2299.6
70°	135.8	135.8	136.2	136.4	152.6	331.9	910.7	1139.0	1425.5	1654.9	1863.6
72.5°	121.7	120.4	120.0	117.4	119.6	170.1	495.7	700.9	942.4	1199.9	1394.6
75°	105.1	104.9	104.9	102.3	103.6	119.8	215.0	336.3	523.5	763.3	954.9
77.5°	90.9	89.3	89.6	88.0	92.2	91.7	102.0	138.6	227.9	400.9	559.9
80°	74.9	73.8	74.4	73.6	80.1	67.9	68.8	84.7	113.2	175.8	247.9
82.5°	55.4	55.8	60.0	59.6	67.4	45.8	50.4	63.3	76.2	87.6	95.2
85°	32.4	33.1	43.1	45.3	49.5	24.1	30.9	37.7	42.5	47.1	49.0
87.5°	3.5	4.6	24.1	24.7	22.1	7.2	12.5	15.8	16.9	18.0	15.8
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°	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2
2.5°	321.2	318.4	315.3	313.6	310.5	307.9	303.0	299.1	294.7	291.7	290.3
5°	358.9	352.1	344.9	339.6	333.0	327.4	316.4	303.3	299.1	290.3	288.2
7.5°	407.9	395.7	383.4	373.3	361.9	352.5	334.1	310.5	307.4	293.4	290.3
10°	465.5	447.6	429.4	413.8	397.2	382.7	355.6	322.3	319.0	301.1	298.0
12.5°	529.9	508.0	484.6	461.4	441.6	421.3	384.3	340.7	335.5	314.2	310.1
15°	596.2	572.6	545.4	517.4	493.1	466.2	419.5	364.8	355.2	330.2	324.5
17.5°	661.7	636.1	607.6	576.3	547.8	515.7	457.6	391.7	375.1	346.0	338.7
20°	725.0	698.9	668.9	638.3	602.8	566.0	496.6	418.2	392.8	359.1	349.7
22.5°	782.6	760.2	730.2	695.0	659.1	617.7	536.2	444.7	408.4	369.2	357.1
25°	843.2	822.9	793.1	759.1	717.3	671.3	577.2	469.9	420.8	374.6	359.8
27.5°	904.5	887.0	859.0	823.3	778.4	727.4	618.8	493.1	430.9	376.4	358.4
30°	970.0	956.4	930.6	890.7	845.4	788.9	664.1	515.9	437.3	374.0	352.5
32.5°	1032.0	1031.5	1008.5	967.2	918.3	856.1	711.9	538.9	440.6	367.2	342.2
35°	1096.4	1105.3	1088.0	1048.6	997.2	928.2	764.6	563.4	440.8	355.2	328.9
37.5°	1169.5	1185.5	1177.8	1140.4	1086.3	1010.3	826.6	591.0	439.5	338.5	309.4
40°	1252.7	1274.6	1274.4	1242.8	1185.0	1102.3	898.6	621.9	436.4	317.7	286.4
42.5°	1347.9	1374.0	1381.2	1350.1	1291.7	1202.8	981.2	655.8	431.6	297.1	262.1
45°	1457.0	1480.0	1493.5	1464.6	1406.0	1312.2	1076.0	694.3	425.7	270.6	234.3
47.5°	1573.7	1600.4	1620.8	1596.0	1533.4	1437.1	1188.3	744.0	423.5	240.4	204.3
50°	1718.4	1746.0	1790.0	1778.9	1744.5	1667.0	1425.9	861.4	424.4	211.7	179.1
52.5°	2077.5	2140.8	2196.4	2171.7	2090.0	1957.1	1619.0	926.7	406.0	188.3	161.6
55°	2185.9	2257.7	2339.8	2329.6	2251.2	2117.2	1771.6	981.2	388.2	171.2	150.2
57.5°	2375.5	2460.3	2575.0	2572.8	2476.7	2325.8	1968.0	1046.4	380.6	161.4	144.5
60°	2576.3	2684.3	2842.8	2867.5	2763.1	2606.1	2200.1	1126.6	381.7	155.9	141.2
62.5°	2723.0	2881.3	3111.9	3185.9	3062.9	2889.9	2441.0	1206.7	375.1	149.6	137.3
65°	2732.0	2959.9	3287.1	3402.3	3277.7	3055.4	2526.0	1190.9	335.7	141.0	130.9
67.5°	2513.0	2810.0	3207.4	3333.7	3206.3	2953.4	2377.1	1041.2	272.8	126.1	120.0
70°	2093.1	2437.7	2850.2	2991.0	2885.7	2629.8	2068.8	831.6	203.9	106.4	103.6
72.5°	1617.5	1938.9	2313.6	2443.9	2363.3	2138.2	1631.7	606.1	145.6	86.3	84.1
75°	1156.3	1430.1	1702.0	1751.7	1672.2	1465.5	1058.7	378.6	102.0	70.7	67.7
77.5°	716.0	894.0	991.7	927.7	826.4	686.9	430.9	187.0	67.9	57.6	54.5
80°	317.7	372.9	348.2	310.3	245.0	201.4	131.6	83.0	43.8	44.4	42.7
82.5°	106.9	113.0	109.9	109.3	98.5	86.3	55.8	35.9	24.5	28.5	27.8
85°	52.1	54.5	54.7	56.7	49.3	38.3	15.1	14.2	10.5	15.3	16.0
87.5°	15.8	16.0	14.5	15.8	12.7	8.8	2.8	3.9	2.0	3.7	3.7
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):**

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2
2.5°	287.9	287.1	285.5	283.8	283.3	281.1	280.5	279.4	278.7	277.6	276.8
5°	285.3	283.8	282.0	280.1	280.1	277.0	275.7	274.4	274.4	272.4	271.5
7.5°	287.9	286.0	284.0	282.2	282.9	279.4	278.1	276.8	276.6	274.6	273.7
10°	295.4	293.4	291.0	289.3	288.6	285.7	284.2	282.2	280.9	279.6	278.3
12.5°	306.8	304.1	301.1	297.4	295.8	293.4	291.0	288.4	285.3	284.0	282.0
15°	320.3	316.0	311.8	307.2	303.0	300.6	297.4	293.2	289.0	287.3	284.7
17.5°	331.5	326.9	321.0	315.5	308.1	306.1	301.5	296.5	289.7	289.0	285.1
20°	340.9	333.9	326.7	320.1	308.7	307.6	302.0	296.0	286.4	286.4	281.6
22.5°	346.2	336.5	328.0	319.2	305.0	304.1	297.6	290.6	278.7	279.2	273.3
25°	347.1	335.5	324.7	314.2	297.8	296.3	287.9	280.3	267.4	266.5	260.3
27.5°	343.6	330.0	317.5	304.8	287.1	283.8	274.6	265.4	252.7	250.5	243.9
30°	335.5	319.5	305.5	290.8	272.2	266.9	257.3	247.9	234.9	232.1	226.0
32.5°	322.5	304.4	288.8	274.1	253.6	247.0	237.4	227.9	215.5	213.3	207.6
35°	305.5	285.1	268.7	253.1	232.5	225.8	216.6	208.2	196.8	196.0	192.0
37.5°	284.0	262.8	245.2	230.3	210.9	207.4	197.9	191.8	182.4	183.3	181.3
40°	259.7	238.0	221.4	208.2	191.4	188.3	182.6	178.0	169.9	172.3	172.5
42.5°	235.2	213.5	198.4	186.6	172.1	170.1	166.2	163.6	157.4	162.3	164.2
45°	207.4	187.2	174.3	165.3	154.6	154.6	152.6	152.4	148.2	155.0	157.0
47.5°	180.4	164.7	155.7	150.2	142.8	146.3	145.6	147.4	144.3	151.3	153.1
50°	160.1	149.1	143.6	141.0	135.8	141.2	142.5	145.0	142.3	148.5	149.8
52.5°	147.1	139.9	136.9	136.2	132.5	139.3	141.5	143.6	140.6	146.3	146.0
55°	139.9	135.1	134.0	135.3	132.5	139.0	141.2	142.8	140.1	144.1	143.9
57.5°	137.3	134.7	135.3	137.3	135.3	140.8	141.9	143.6	141.0	142.8	143.6
60°	137.1	137.1	139.7	142.3	141.0	145.0	145.6	145.4	143.0	143.2	143.6
62.5°	135.8	139.0	143.4	147.6	147.1	152.0	152.4	149.6	147.6	145.4	144.7
65°	131.6	137.1	143.4	149.1	150.0	157.4	158.3	155.5	154.2	150.4	147.6
67.5°	122.4	129.4	136.9	143.9	145.4	155.5	157.4	158.5	159.2	156.8	153.1
70°	106.9	114.1	121.7	129.8	132.0	143.2	147.4	152.4	156.3	159.8	158.5
72.5°	86.9	93.5	100.1	107.5	110.8	122.4	127.9	136.6	142.8	151.7	155.5
75°	69.0	72.9	76.9	81.5	84.1	95.5	102.3	112.8	121.1	133.6	141.9
77.5°	54.3	56.3	58.2	60.2	61.3	67.7	73.1	83.6	93.3	109.0	121.3
80°	41.8	42.9	43.1	43.8	43.4	46.4	48.4	54.7	63.1	78.6	93.1
82.5°	26.9	27.8	28.2	29.3	27.2	31.1	32.4	33.1	37.4	48.8	59.1
85°	15.1	15.3	15.5	16.0	12.9	16.9	17.1	16.0	15.5	20.1	22.8
87.5°	3.7	3.5	3.7	3.7	1.5	3.5	3.5	2.4	1.8	3.3	2.6
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°	298.2	298.2	298.2	298.2	298.2	298.2
2.5°	274.8	274.4	274.6	273.5	273.0	273.3
5°	270.4	269.5	269.5	268.9	268.0	268.0
7.5°	272.4	270.6	270.0	268.7	267.4	267.6
10°	275.5	272.4	270.2	268.2	266.7	266.7
12.5°	277.4	272.0	268.7	266.0	264.3	264.3
15°	277.9	269.5	264.7	261.9	260.1	260.1
17.5°	275.2	264.7	258.6	254.9	252.9	253.3
20°	268.7	255.7	248.5	244.6	242.6	242.8
22.5°	258.4	243.5	235.2	230.6	228.6	228.6
25°	244.4	228.2	219.2	215.5	213.7	213.7
27.5°	228.4	211.7	203.9	201.0	199.9	199.9
30°	210.4	196.6	190.9	189.0	187.2	187.2
32.5°	195.3	185.5	183.5	180.9	176.3	176.0
35°	183.3	182.2	180.6	172.8	166.2	165.3
37.5°	176.7	183.3	173.6	160.1	154.8	154.6
40°	173.2	179.3	162.7	156.1	155.5	155.5
42.5°	164.9	169.3	162.0	158.3	158.3	158.5
45°	156.1	159.8	163.6	160.3	161.4	161.6
47.5°	150.0	157.4	163.6	160.7	162.9	164.2
50°	144.3	155.2	160.3	160.3	162.7	162.9
52.5°	143.0	152.2	157.2	159.6	159.8	158.7
55°	143.2	149.8	154.8	157.9	156.6	156.6
57.5°	143.0	148.5	152.8	153.9	154.6	154.6
60°	143.2	146.7	150.2	149.8	152.0	152.0
62.5°	143.9	144.3	146.0	145.6	148.9	148.9
65°	145.4	141.2	140.1	140.6	144.5	144.3
67.5°	148.2	137.1	133.6	133.8	139.5	138.6
70°	152.4	131.4	126.1	124.8	134.4	132.9
72.5°	153.7	124.8	116.5	115.2	120.9	116.5
75°	147.6	119.6	106.2	101.8	99.4	98.1
77.5°	131.6	116.3	95.5	86.3	82.5	81.7
80°	109.0	109.5	81.5	70.5	81.9	81.7
82.5°	82.3	94.6	65.3	61.1	59.3	49.5
85°	39.9	71.2	50.1	42.0	25.2	23.9
87.5°	3.5	29.8	28.9	18.8	8.5	8.1
90°	0.0	0.0	0.0	0.0	0.0	0.0

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