

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: P270610

Luminaire Tested: **NAV-AF-05-D-UNV-SLL-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270610
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-05-D-UNV-SLL-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 615mA 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: 15202.2 lumens
Efficiency: N/A
Efficacy: 93.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

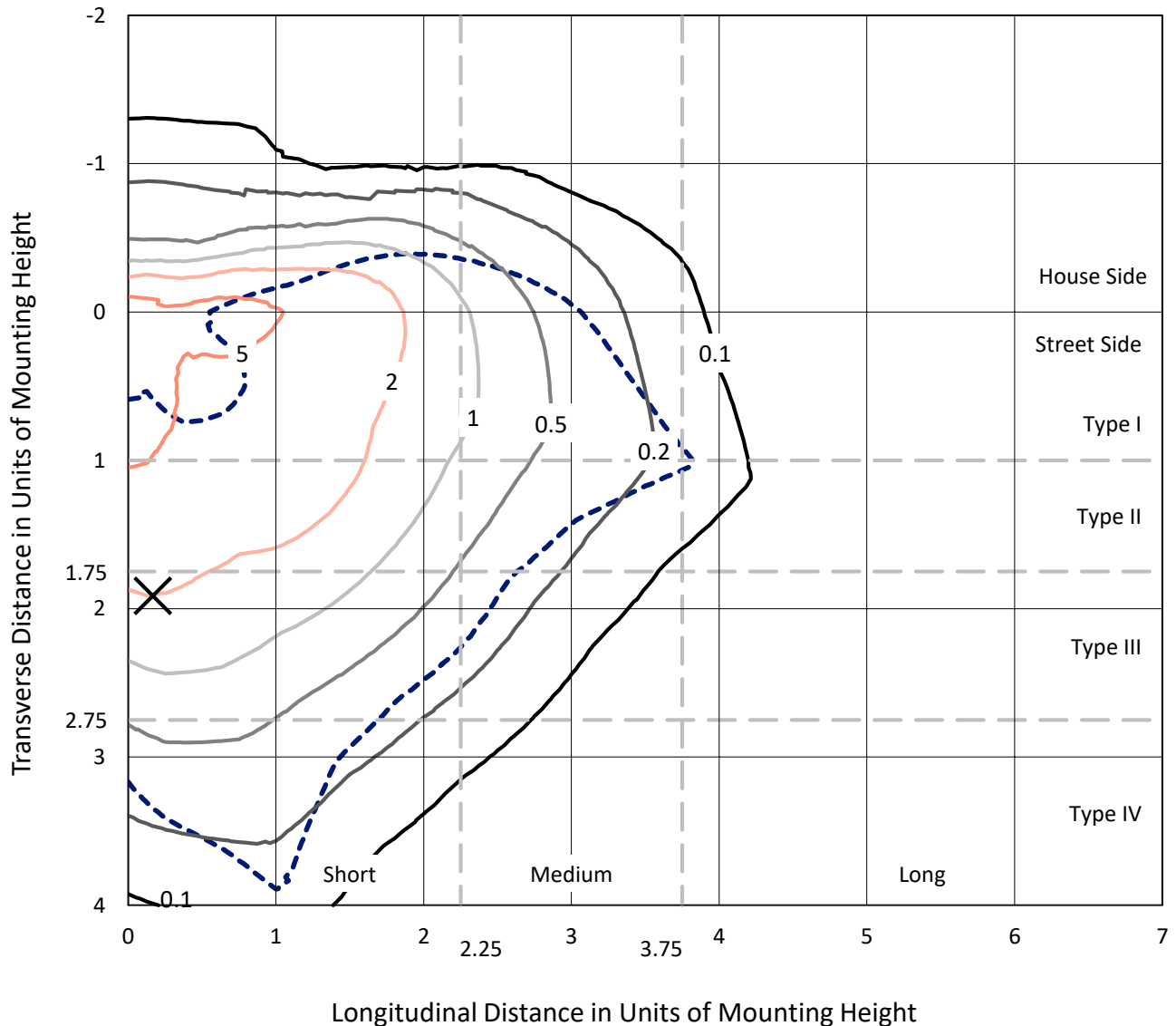
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P270610
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Iso-Footcandle Lines of Horizontal Illumination

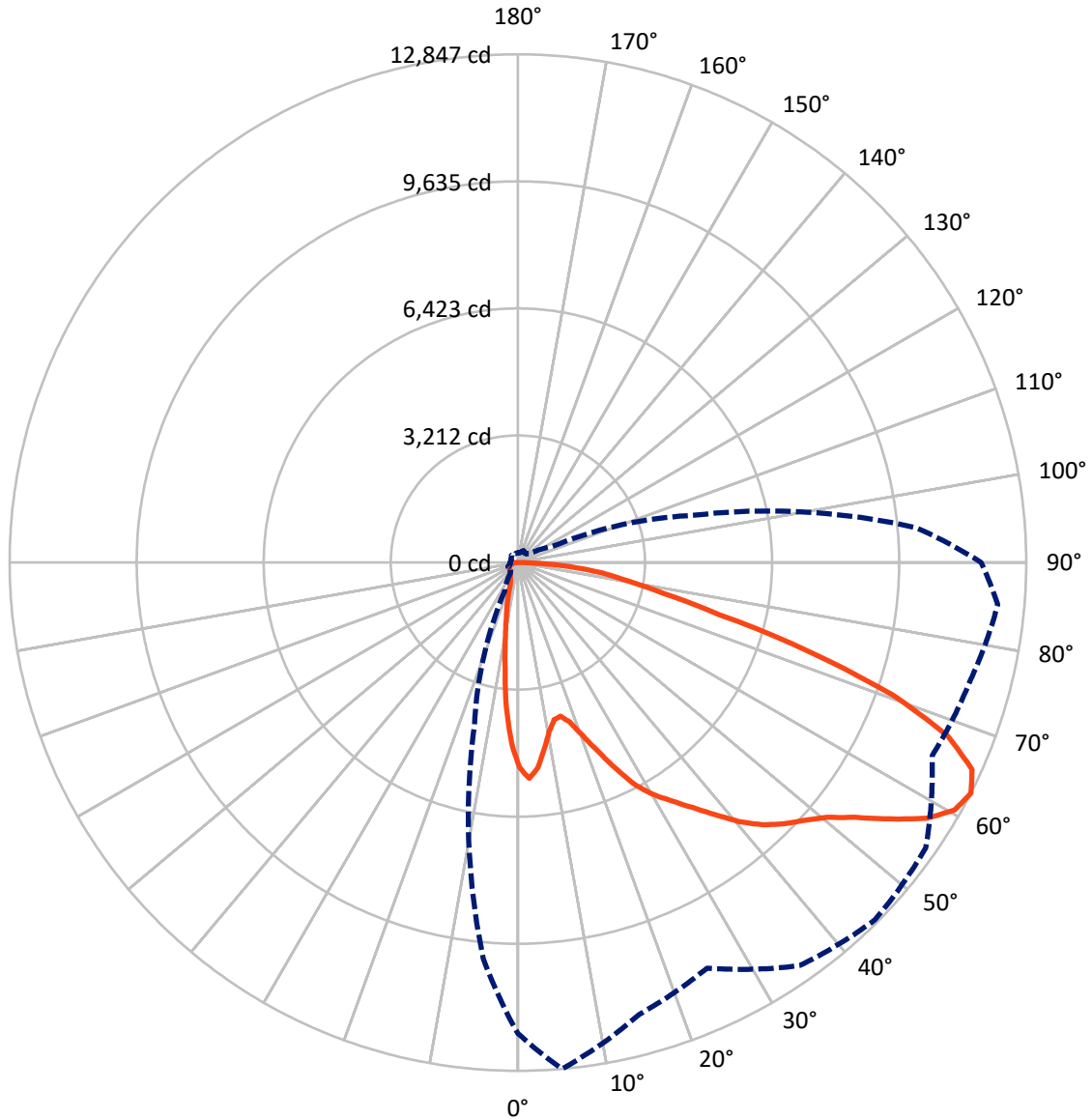
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.5 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	2693.1	0.0	2693.1
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	12509.1	0.0	12509.1
	% Fixture	82.3	0.0	82.3
Total	Lumens	15202.2	0.0	15202.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	376.9	2.5
10°-20°	688.4	4.5
20°-30°	990.1	6.5
30°-40°	1516.5	10.0
40°-50°	2217.2	14.6
50°-60°	3226.0	21.2
60°-70°	3737.7	24.6
70°-80°	1948.4	12.8
80°-90°	500.9	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°	15202.2	100.0
0°-180°	15202.2	100.0



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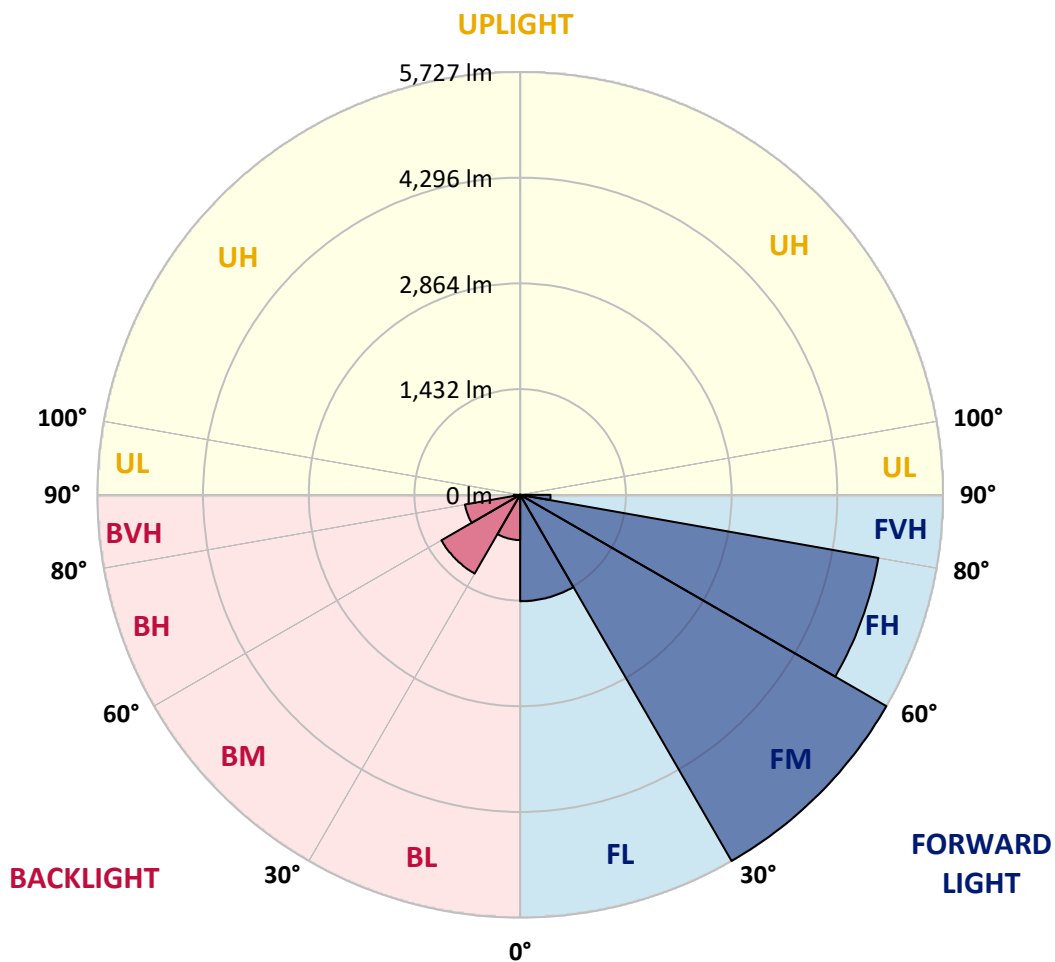
CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-7027-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1442.8	9.5			
FM	(30°-60°)	5727.5	37.7			
FH	(60°-80°)	4926.8	32.4			G2/5000
FVH	(80°-90°)	412.0	2.7			G3/500
BL	(0°-30°)	612.7	4.0	B2/1000		
BM	(30°-60°)	1232.2	8.1	B2/2500		
BH	(60°-80°)	759.4	5.0	B2/1000		G2/1000
BVH	(80°-90°)	88.8	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°	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7
2.5°	5350.2	5463.9	5593.8	5763.5	5879.3	5925.6	5964.1	5899.2	5836.4	5718.4	5676.5
5°	4997.5	5215.7	5574.1	5914.6	6214.5	6386.4	6439.3	6319.1	6105.3	5796.7	5633.5
7.5°	4474.0	4761.6	5265.3	5766.8	6196.8	6483.3	6504.3	6266.2	5845.2	5339.3	5074.7
10°	4016.5	4341.7	4924.8	5485.8	5941.1	6234.2	6176.9	5842.9	5334.9	4759.5	4460.8
12.5°	3751.0	4076.1	4670.2	5240.1	5668.8	5780.1	5663.4	5382.3	4900.6	4324.1	4023.1
15°	3694.6	4029.7	4579.7	5060.4	5326.1	5254.4	5138.7	4996.5	4653.7	4181.9	3890.9
17.5°	3864.5	4239.2	4699.9	4963.3	4952.4	4780.4	4683.5	4710.9	4652.5	4336.2	4032.0
20°	4213.9	4657.0	5005.3	4936.9	4654.7	4413.4	4357.1	4573.2	4843.2	4723.1	4389.1
22.5°	4673.5	5178.3	5421.9	5013.0	4499.3	4239.2	4228.2	4565.5	5190.4	5308.4	4901.6
25°	5192.7	5781.2	5841.9	5147.5	4482.8	4223.8	4213.9	4684.5	5608.2	5888.2	5475.9
27.5°	5827.6	6389.6	6192.3	5327.0	4555.6	4268.9	4275.7	4887.3	6043.5	6461.2	6122.9
30°	6305.9	6821.8	6408.4	5503.5	4672.4	4348.3	4364.9	5106.7	6278.3	6859.2	6639.9
32.5°	6753.4	7191.0	6615.7	5677.6	4843.2	4466.3	4523.5	5379.9	6560.5	7201.0	7128.2
35°	7248.3	7604.3	6846.1	5863.9	5087.9	4673.5	4756.2	5640.2	6840.6	7542.6	7612.1
37.5°	7809.3	8077.2	7096.3	6127.2	5440.7	5057.1	5103.5	5905.7	7035.5	7920.6	8131.2
40°	8393.6	8607.4	7369.5	6478.9	5953.2	5575.2	5597.2	6246.4	7188.7	8311.9	8635.0
42.5°	8895.0	9061.6	7643.9	6915.4	6541.7	6103.1	6121.8	6613.4	7335.4	8649.3	9038.3
45°	9296.3	9418.5	7903.1	7375.1	7170.0	6762.3	6757.8	6987.0	7531.6	8933.6	9348.1
47.5°	9670.0	9734.9	8191.9	7822.6	7821.5	7611.0	7453.3	7427.9	7792.8	9172.9	9618.2
50°	10097.6	10121.8	8573.2	8274.5	8617.4	8584.3	8293.2	7987.9	8131.2	9441.7	9901.4
52.5°	10692.9	10694.0	9046.0	8715.4	9495.8	9600.5	9262.2	8621.8	8631.6	9965.3	10390.8
55°	11392.8	11441.3	9662.2	9243.4	10415.0	10593.6	10275.1	9374.5	9350.3	10809.7	11184.3
57.5°	11934.0	12190.8	10379.7	9903.6	11273.6	11506.3	11249.5	10154.9	10233.2	11680.4	11839.1
60°	12086.1	12686.8	11095.1	10644.2	12000.1	12349.4	12088.2	10998.0	11097.3	12245.9	12027.6
62.5°	11904.2	12846.7	11823.8	11307.9	12431.0	12766.2	12578.7	11550.3	11801.7	12173.1	11709.0
65°	11365.1	12615.1	12456.3	11590.0	12183.1	12302.1	12252.5	11579.1	12184.2	11485.3	10828.3
67.5°	10106.4	11722.3	12174.2	10987.1	11024.5	10896.7	10831.8	10792.0	11754.2	10375.3	9439.6
70°	8219.4	10072.2	10828.3	9195.0	8917.0	8793.7	8579.8	9109.0	10565.0	8840.0	7768.5
72.5°	6331.3	7705.8	8881.8	6970.6	6393.0	6434.9	6192.3	6965.1	8751.7	6833.9	5931.1
75°	4496.0	5254.4	7089.7	5008.6	4243.7	4241.3	4222.7	5013.0	6905.5	4904.9	4339.5
77.5°	3240.5	3782.9	5554.2	3351.8	3011.3	3049.8	2988.1	3407.0	5383.4	3528.3	3215.3
80°	2584.8	2800.7	3589.9	2235.3	2242.0	2332.3	2319.2	2330.2	3541.5	2555.0	2404.0
82.5°	1857.2	2126.2	2744.6	1712.9	1482.6	1578.4	1597.1	1728.2	2498.7	1806.6	1585.0
85°	952.4	1296.3	2525.2	1483.6	927.1	768.3	884.0	1363.4	2170.3	1082.4	772.6
87.5°	185.2	359.3	1850.7	824.5	416.6	210.6	347.3	577.6	1262.1	196.2	95.8
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7
2.5°	5604.9	5463.9	5331.5	5194.9	5089.1	4960.1	4833.3	4723.1	4616.2	4545.7	4567.7
5°	5468.3	5124.3	4815.6	4529.1	4361.5	4159.8	3980.2	3829.1	3712.3	3637.3	3682.6
7.5°	4845.5	4380.2	3973.6	3595.5	3357.4	3096.2	2886.8	2739.0	2648.7	2598.0	2671.7
10°	4208.3	3685.8	3229.5	2836.0	2601.3	2379.7	2190.2	2033.7	1912.4	1855.1	1884.9
12.5°	3752.0	3171.1	2692.8	2428.2	2226.4	2028.2	1832.0	1649.0	1494.6	1424.2	1409.8
15°	3581.2	2894.5	2406.2	2110.7	1910.2	1694.2	1482.6	1286.4	1139.7	1079.1	1065.8
17.5°	3656.1	2835.0	2236.4	1887.0	1596.1	1333.8	1095.7	910.4	802.5	768.3	771.6
20°	3919.6	2857.0	2099.8	1656.7	1297.3	986.5	748.4	620.5	574.2	566.6	575.4
22.5°	4281.1	2947.3	2000.5	1458.3	1033.9	717.6	556.6	496.0	483.8	482.7	491.6
25°	4758.3	3123.8	1934.4	1281.9	816.7	568.7	484.9	450.8	440.9	443.1	451.8
27.5°	5320.5	3347.5	1891.4	1129.8	671.3	507.1	453.0	423.2	413.3	415.6	422.2
30°	5834.1	3543.8	1827.5	1015.2	602.9	484.9	435.4	405.7	392.4	392.4	396.8
32.5°	6293.7	3713.5	1752.6	929.1	540.2	435.4	394.5	371.4	361.6	364.8	367.0
35°	6701.6	3802.7	1694.2	878.5	489.3	401.3	360.4	336.1	322.9	325.1	328.5
37.5°	7102.8	3836.9	1655.5	851.0	453.0	380.3	342.9	322.9	308.6	306.4	305.3
40°	7484.1	3829.1	1619.1	843.1	428.9	364.8	331.7	314.1	299.9	296.5	295.5
42.5°	7813.7	3803.9	1585.0	822.3	412.2	353.8	322.9	307.5	293.1	288.7	286.6
45°	8114.7	3788.4	1547.5	783.7	421.0	349.4	318.5	302.0	288.7	283.2	281.1
47.5°	8448.6	3843.5	1505.6	741.8	418.9	350.5	318.5	299.9	286.6	281.1	278.8
50°	8846.6	4029.7	1453.8	684.5	398.9	374.8	317.5	296.5	284.4	281.1	276.7
52.5°	9408.7	4331.7	1382.2	610.7	383.5	400.1	316.4	291.1	281.1	275.6	270.0
55°	10179.1	4633.7	1289.6	532.3	359.3	382.5	318.5	284.4	273.4	267.9	261.2
57.5°	10810.7	4863.1	1172.7	467.4	337.3	361.6	315.2	276.7	264.6	259.0	253.5
60°	10770.0	4885.2	1061.4	425.4	324.1	325.1	322.9	271.2	256.8	252.5	248.0
62.5°	10103.1	4612.8	957.9	404.5	314.1	296.5	329.6	264.6	249.1	244.7	241.4
65°	8993.1	3979.1	902.7	404.5	305.3	281.1	287.6	255.7	241.4	237.1	234.7
67.5°	7585.6	3197.5	851.0	413.3	293.1	270.0	261.2	246.9	233.6	229.2	227.0
70°	6080.0	2516.4	814.6	408.9	282.2	258.0	246.9	234.7	221.5	220.4	218.3
72.5°	4769.5	2021.5	798.1	408.9	265.7	243.6	232.7	223.8	210.6	209.5	206.2
75°	3821.5	1517.7	729.7	401.3	249.1	224.8	215.0	207.1	194.0	195.1	192.9
77.5°	2959.5	1073.6	609.5	361.6	228.2	203.9	196.2	190.7	175.3	176.3	176.3
80°	2314.8	698.8	472.9	299.9	203.9	179.8	174.1	169.7	153.3	155.3	155.3
82.5°	1586.0	415.6	342.9	241.4	175.3	153.3	152.2	145.4	127.9	128.9	131.2
85°	866.3	273.4	228.2	178.6	137.8	124.5	122.3	119.0	102.4	102.4	103.7
87.5°	159.8	146.7	134.4	117.9	92.5	89.3	86.0	89.3	77.2	75.0	75.0
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°	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7
2.5°	4515.9	4439.9	4387.0	4340.6	4229.3	4236.9	4252.4	4274.4	4205.1	4241.3	4286.6
5°	3637.3	3574.5	3527.1	3453.4	3297.9	3242.8	3207.5	3192.0	3088.5	3110.6	3159.0
7.5°	2681.7	2680.6	2664.2	2581.4	2394.1	2280.5	2205.6	2182.4	2118.6	2142.7	2216.6
10°	1888.1	1908.0	1900.3	1826.4	1658.9	1577.3	1560.7	1607.1	1608.1	1655.5	1782.2
12.5°	1364.5	1353.6	1343.7	1283.0	1157.3	1144.1	1181.6	1245.5	1261.0	1311.6	1443.9
15°	1018.5	992.0	986.5	939.1	856.4	868.7	896.1	929.1	930.3	965.6	1074.7
17.5°	763.9	763.9	772.6	741.8	682.4	676.8	662.4	653.6	640.4	654.8	714.2
20°	593.1	620.5	642.6	625.0	571.0	544.6	517.0	499.3	489.3	490.6	508.1
22.5°	508.1	530.2	558.8	550.0	504.8	470.6	453.0	440.9	433.3	433.3	443.1
25°	465.1	479.4	505.9	501.6	462.9	435.4	421.0	408.9	400.1	398.9	408.9
27.5°	430.9	439.8	457.4	455.3	415.6	397.9	389.1	381.4	375.9	374.8	384.7
30°	400.1	404.5	413.3	410.0	380.3	362.6	359.3	356.0	352.8	353.8	368.1
32.5°	372.5	375.9	381.4	377.0	348.4	332.9	327.3	322.9	319.6	322.9	339.5
35°	341.6	351.5	358.2	356.0	325.1	306.4	294.4	283.2	278.8	282.2	300.9
37.5°	315.2	331.7	340.5	338.4	306.4	284.4	269.0	266.7	266.7	271.2	290.0
40°	305.3	317.5	325.1	321.9	290.0	267.9	259.0	255.7	256.8	261.2	281.1
42.5°	296.5	307.5	309.7	303.1	271.2	256.8	251.3	246.9	249.1	254.6	274.4
45°	288.7	297.6	296.5	286.6	255.7	245.7	245.7	242.5	243.6	248.0	269.0
47.5°	283.2	287.6	285.5	275.6	244.7	237.1	240.2	240.2	242.5	245.7	266.7
50°	274.4	277.8	275.6	266.7	235.9	229.2	232.7	237.1	239.2	242.5	261.2
52.5°	265.7	267.9	266.7	258.0	227.0	222.7	222.7	227.0	231.5	235.9	252.5
55°	256.8	259.0	260.1	253.5	220.4	216.0	215.0	215.0	219.4	226.0	243.6
57.5°	250.2	250.2	252.5	248.0	213.8	208.3	202.7	203.9	209.5	215.0	232.7
60°	242.5	243.6	246.9	242.5	205.1	196.2	191.8	197.3	199.6	205.1	223.8
62.5°	235.9	235.9	238.1	234.7	197.3	188.5	185.2	190.7	190.7	196.2	215.0
65°	230.3	229.2	229.2	228.2	189.6	180.7	178.6	180.7	181.8	187.3	206.2
67.5°	226.0	220.4	220.4	222.7	181.8	173.1	171.9	171.9	173.1	179.8	196.2
70°	216.0	211.6	210.6	218.3	174.1	163.1	163.1	160.9	163.1	166.5	184.1
72.5°	205.1	201.7	200.6	211.6	166.5	152.2	149.8	148.8	149.8	153.3	169.7
75°	190.7	188.5	190.7	207.1	158.7	140.0	136.7	135.6	135.6	136.7	154.2
77.5°	174.1	171.9	188.5	192.9	154.2	125.7	122.3	120.2	117.9	117.9	137.8
80°	154.2	153.3	181.8	163.1	147.7	110.2	104.7	101.4	99.3	98.2	117.9
82.5°	134.4	132.3	155.3	127.9	122.3	90.4	82.6	76.0	72.8	72.8	90.4
85°	110.2	109.1	122.3	93.8	84.9	66.1	55.2	49.5	45.2	45.2	58.4
87.5°	80.5	78.2	76.0	56.2	42.9	29.7	20.9	19.9	17.6	16.4	24.3
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°	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7	5182.7
2.5°	4353.8	4445.4	4618.4	4760.6	4950.1	5102.3	5275.2	5350.2
5°	3248.4	3392.7	3657.2	3883.3	4196.3	4486.1	4816.8	4997.5
7.5°	2330.2	2544.0	2744.6	3026.7	3418.1	3807.1	4234.8	4474.0
10°	1927.9	2124.0	2296.0	2496.6	2798.6	3236.1	3746.6	4016.5
12.5°	1597.1	1808.7	1990.6	2205.6	2459.1	2854.9	3436.7	3751.0
15°	1224.6	1455.0	1673.3	1932.3	2243.1	2694.9	3344.2	3694.6
17.5°	838.7	1085.7	1354.6	1670.9	2045.8	2627.7	3432.3	3864.5
20°	569.9	750.7	1042.8	1417.4	1868.3	2595.7	3626.4	4213.9
22.5°	468.5	550.0	769.4	1179.4	1722.8	2631.0	3941.7	4673.5
25°	429.8	473.9	598.5	970.0	1611.5	2724.6	4368.2	5192.7
27.5°	405.7	443.1	524.7	820.1	1509.0	2852.6	4887.3	5827.6
30°	391.3	426.5	494.8	742.9	1415.3	2962.8	5333.7	6305.9
32.5°	359.3	385.8	442.0	698.8	1348.0	3052.1	5727.2	6753.4
35°	320.8	352.8	398.9	670.1	1345.8	3094.0	6097.5	7248.3
37.5°	306.4	337.3	371.4	654.8	1359.0	3129.2	6550.6	7809.3
40°	297.6	325.1	352.8	652.4	1370.0	3156.9	6993.8	8393.6
42.5°	290.0	317.5	349.4	637.1	1365.7	3194.4	7386.1	8895.0
45°	287.6	315.2	357.2	613.9	1364.5	3252.8	7698.0	9296.3
47.5°	285.5	327.3	354.9	588.6	1360.2	3376.2	8049.6	9670.0
50°	283.2	349.4	339.5	553.4	1327.1	3586.8	8522.5	10097.6
52.5°	282.2	352.8	322.9	504.8	1267.6	3898.6	9214.8	10692.9
55°	277.8	335.1	294.4	440.9	1181.6	4234.8	9956.5	11392.8
57.5°	267.9	298.6	277.8	378.0	1058.2	4469.5	10504.3	11934.0
60°	292.0	256.8	266.7	346.0	910.4	4511.5	10528.6	12086.1
62.5°	278.8	233.6	255.7	335.1	806.9	4238.2	10047.0	11904.2
65°	222.7	221.5	245.7	346.0	791.3	3626.4	9233.5	11365.1
67.5°	202.7	212.7	235.9	359.3	801.3	2857.0	8036.3	10106.4
70°	189.6	201.7	222.7	371.4	819.0	2250.8	6470.1	8219.4
72.5°	176.3	186.3	209.5	383.5	806.9	1775.7	5178.3	6331.3
75°	159.8	168.6	190.7	351.5	692.2	1305.1	4114.6	4496.0
77.5°	141.0	148.8	167.5	277.8	520.3	908.2	3081.8	3240.5
80°	121.2	124.5	138.9	202.7	339.5	543.5	2345.6	2584.8
82.5°	95.8	96.9	105.8	148.8	211.6	347.3	1626.9	1857.2
85°	61.8	63.9	68.4	104.7	142.2	222.7	831.1	952.4
87.5°	20.9	24.3	24.3	50.8	69.4	123.4	254.6	185.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)