

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: STREETWORKS

Report Number: P196216

Luminaire Tested: **NVN-AF-04-LED-U-SLL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196216
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: STREETWORKS
Catalog Number: NVN-AF-04-LED-U-SLL
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 1050mA 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: 22042.5 lumens
Efficiency: N/A
Efficacy: 98.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 225
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: 28.75 FT

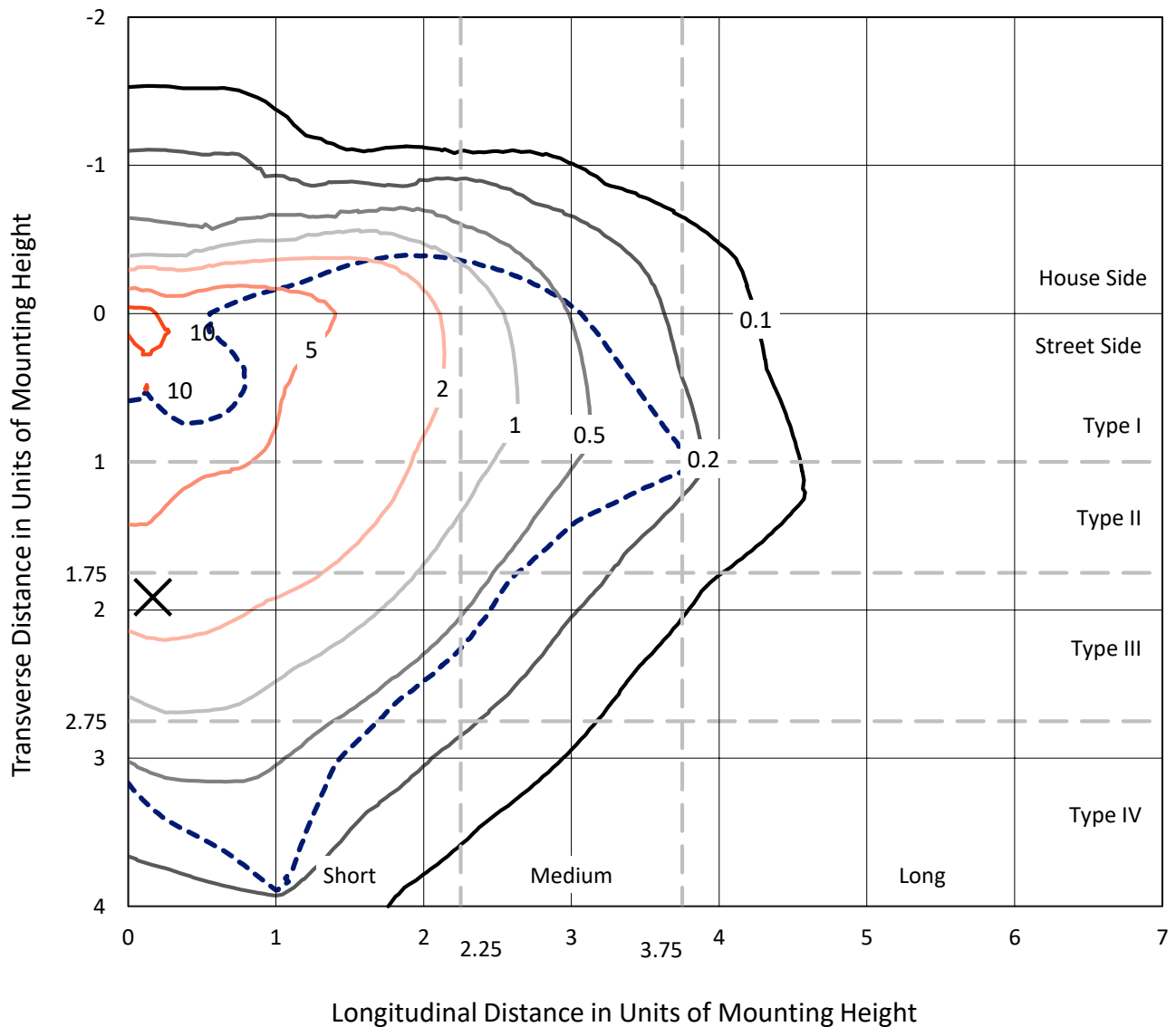


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Iso-Footcandle Lines of Horizontal Illumination

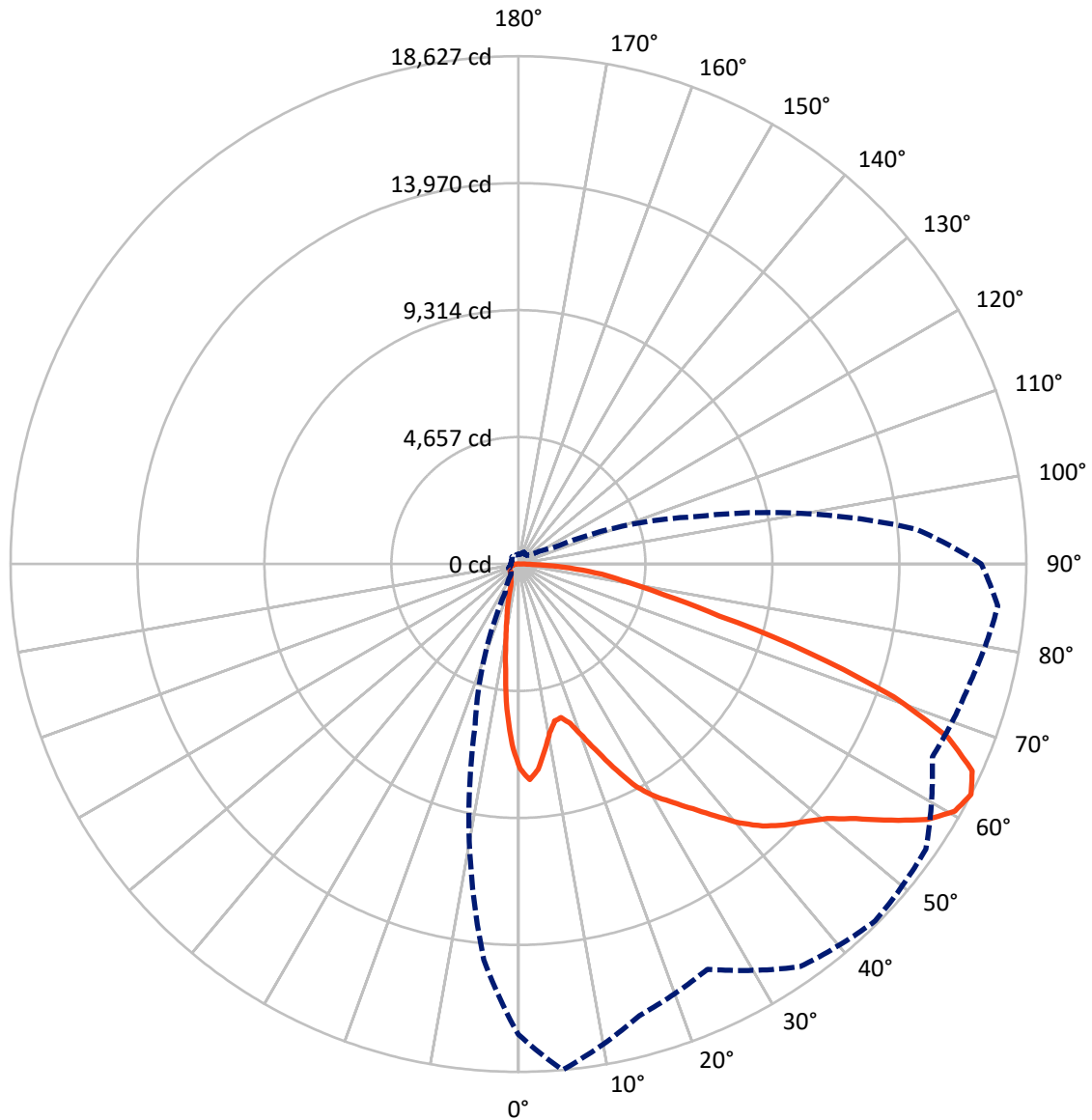
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 13.8 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	3904.9	0.0	3904.9
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	18137.7	0.0	18137.7
	% Fixture	82.3	0.0	82.3
Total	Lumens	22042.5	0.0	22042.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	546.5	2.5
10°-20°	998.2	4.5
20°-30°	1435.7	6.5
30°-40°	2198.9	10.0
40°-50°	3214.8	14.6
50°-60°	4677.6	21.2
60°-70°	5419.6	24.6
70°-80°	2825.1	12.8
80°-90°	726.2	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°	22042.5	100.0
0°-180°	22042.5	100.0



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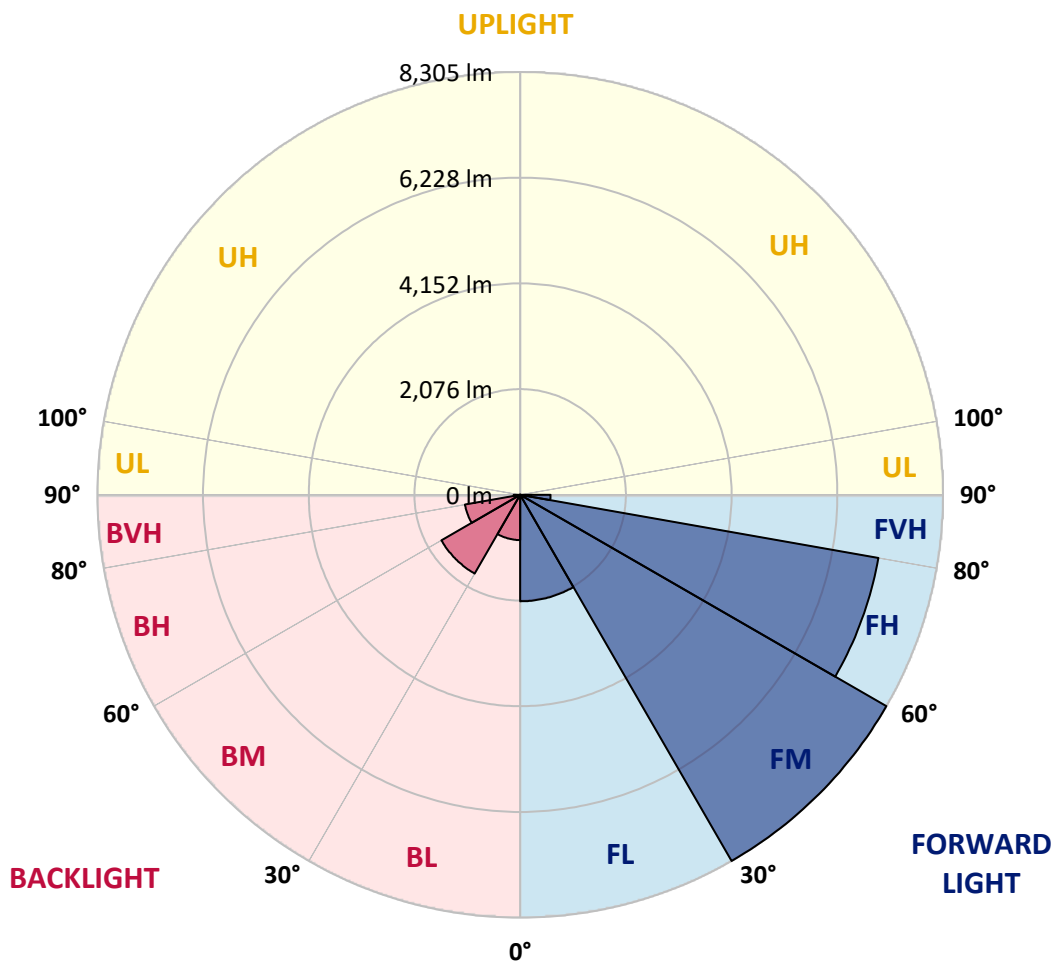
CATALOG NUMBER: NVN-AF-04-LED-U-SLL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2091.9	9.5			
FM	(30°-60°)	8304.6	37.7			
FH	(60°-80°)	7143.7	32.4			G3/7500
FVH	(80°-90°)	597.4	2.7			G4/750
BL	(0°-30°)	888.4	4.0	B2/1000		
BM	(30°-60°)	1786.6	8.1	B2/2500		
BH	(60°-80°)	1101.1	5.0	B3/2500		G3/2500
BVH	(80°-90°)	128.8	0.6			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7
2.5°	7757.6	7922.2	8110.9	8357.0	8524.8	8592.0	8647.8	8553.6	8462.5	8291.4	8230.8
5°	7246.3	7562.7	8082.1	8575.9	9010.7	9260.0	9336.7	9162.5	8852.4	8405.0	8168.4
7.5°	6487.1	6904.2	7634.6	8361.8	8985.1	9400.6	9431.0	9085.7	8475.2	7741.7	7358.1
10°	5823.9	6295.3	7140.8	7954.3	8614.3	9039.4	8956.3	8472.1	7735.2	6901.0	6467.9
12.5°	5438.7	5910.1	6771.6	7597.9	8219.5	8380.9	8211.5	7804.0	7105.6	6269.8	5833.5
15°	5357.2	5843.0	6640.5	7337.3	7722.5	7618.6	7450.8	7244.6	6747.6	6063.5	5641.7
17.5°	5603.3	6146.7	6814.7	7196.7	7180.7	6931.4	6790.8	6830.8	6746.1	6287.4	5846.3
20°	6109.9	6752.4	7257.4	7158.3	6749.2	6399.2	6317.6	6631.0	7022.5	6848.2	6364.1
22.5°	6776.3	7508.4	7861.6	7268.6	6523.9	6146.7	6130.7	6619.7	7526.0	7696.9	7107.2
25°	7529.1	8382.6	8470.4	7463.6	6499.9	6124.3	6109.9	6792.4	8131.6	8537.5	7939.8
27.5°	8449.7	9264.8	8978.6	7724.1	6605.4	6189.9	6199.4	7086.4	8762.9	9368.7	8878.0
30°	9143.3	9891.2	9292.0	7979.8	6774.8	6304.9	6328.9	7404.4	9103.3	9945.6	9627.6
32.5°	9792.2	10426.6	9592.4	8232.3	7022.5	6475.9	6559.1	7800.8	9512.5	10441.1	10335.6
35°	10509.8	11026.0	9926.4	8502.5	7377.3	6776.3	6896.2	8178.0	9918.4	10936.5	11037.1
37.5°	11323.2	11711.7	10289.2	8884.4	7888.7	7332.5	7399.7	8563.1	10201.3	11484.7	11789.9
40°	12170.4	12480.3	10685.5	9394.3	8631.9	8083.7	8115.7	9057.0	10423.5	12052.0	12520.3
42.5°	12897.5	13138.8	11083.6	10027.1	9485.3	8849.2	8876.5	9589.2	10636.0	12541.1	13105.2
45°	13479.2	13656.6	11459.1	10693.5	10396.2	9805.0	9798.5	10131.0	10920.5	12953.4	13554.3
47.5°	14021.0	14115.3	11877.8	11342.5	11340.8	11035.6	10807.1	10770.2	11299.3	13300.2	13945.9
50°	14641.1	14676.3	12430.8	11997.7	12494.7	12446.8	12024.9	11582.2	11789.9	13690.2	14356.6
52.5°	15504.1	15505.8	13116.5	12637.0	13768.5	13920.3	13429.7	12501.2	12515.5	14449.4	15066.2
55°	16519.0	16589.3	14009.8	13402.5	15101.4	15360.3	14898.5	13592.7	13557.6	15673.6	16216.9
57.5°	17303.7	17676.1	15050.3	14359.9	16346.4	16683.6	16311.3	14724.3	14837.7	16936.2	17166.2
60°	17524.3	18395.3	16087.5	15433.9	17399.6	17906.2	17527.4	15946.9	16090.7	17756.0	17439.6
62.5°	17260.6	18627.0	17143.9	16396.0	18024.5	18510.4	18238.7	16747.5	17111.9	17650.5	16977.7
65°	16479.0	18291.4	18061.3	16805.0	17664.9	17837.5	17765.6	16789.1	17666.6	16653.2	15700.8
67.5°	14653.9	16996.8	17652.1	15930.8	15985.2	15799.8	15705.6	15648.0	17043.2	15043.8	13687.0
70°	11917.8	14604.4	15700.8	13332.2	12929.5	12750.5	12440.4	13207.5	15318.8	12817.6	11264.1
72.5°	9180.1	11173.0	12878.3	10107.1	9269.6	9330.3	8978.6	10099.1	12689.7	9908.8	8599.9
75°	6519.1	7618.6	10279.6	7262.2	6153.0	6149.9	6122.7	7268.6	10012.7	7112.0	6292.1
77.5°	4698.7	5485.1	8053.4	4860.1	4366.3	4422.2	4332.7	4940.0	7805.6	5115.9	4662.0
80°	3747.8	4061.0	5205.4	3241.1	3250.7	3381.8	3362.6	3378.6	5135.0	3704.6	3485.7
82.5°	2692.9	3083.0	3979.5	2483.6	2149.6	2288.6	2315.8	2506.0	3623.1	2619.5	2298.3
85°	1380.9	1879.5	3661.4	2151.2	1344.1	1114.0	1281.8	1977.0	3146.9	1569.4	1120.3
87.5°	268.5	521.0	2683.4	1195.4	604.2	305.2	503.4	837.5	1830.0	284.5	139.0
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7
2.5°	8126.8	7922.2	7730.5	7532.3	7378.9	7191.9	7008.1	6848.2	6693.3	6591.0	6623.0
5°	7928.7	7430.0	6982.6	6567.0	6324.1	6031.6	5771.1	5552.2	5382.8	5274.0	5339.6
7.5°	7025.7	6351.3	5761.6	5213.4	4868.1	4489.3	4185.7	3971.5	3840.5	3766.9	3874.0
10°	6101.9	5344.4	4682.8	4112.2	3771.7	3450.5	3175.6	2948.7	2772.9	2689.7	2732.9
12.5°	5440.3	4598.1	3904.4	3520.8	3228.3	2940.7	2656.2	2390.9	2167.1	2064.8	2044.1
15°	5192.6	4196.9	3488.9	3060.6	2769.6	2456.4	2149.6	1865.1	1652.6	1564.6	1545.5
17.5°	5301.2	4110.5	3242.8	2736.1	2314.2	1933.8	1588.6	1320.1	1163.5	1114.0	1118.7
20°	5683.2	4142.5	3044.6	2402.1	1881.1	1430.4	1085.1	899.8	832.7	821.4	834.2
22.5°	6207.4	4273.6	2900.8	2114.4	1499.1	1040.4	807.1	719.2	701.6	700.0	712.8
25°	6899.4	4529.3	2804.8	1858.7	1184.3	824.7	703.2	653.7	639.2	642.5	655.3
27.5°	7714.5	4853.7	2742.5	1638.2	973.3	735.2	656.8	613.7	599.3	602.5	612.1
30°	8459.3	5138.2	2649.9	1471.9	874.2	703.2	631.3	588.1	569.0	569.0	575.3
32.5°	9125.7	5384.3	2541.1	1347.3	783.1	631.3	572.1	538.6	524.2	529.0	532.2
35°	9717.1	5513.8	2456.4	1273.8	709.6	581.8	522.6	487.4	468.3	471.5	476.3
37.5°	10298.8	5563.3	2400.5	1233.8	656.8	551.4	497.1	468.3	447.5	444.3	442.7
40°	10851.8	5552.2	2347.8	1222.6	621.7	529.0	481.1	455.5	434.8	429.9	428.3
42.5°	11329.7	5515.3	2298.3	1192.2	597.7	513.0	468.3	445.9	425.1	418.7	415.5
45°	11766.0	5493.0	2243.8	1136.3	610.5	506.7	461.9	437.9	418.7	410.7	407.5
47.5°	12250.2	5572.9	2183.2	1075.6	607.3	508.2	461.9	434.8	415.5	407.5	404.4
50°	12827.2	5843.0	2108.0	992.5	578.6	543.4	460.3	429.9	412.4	407.5	401.1
52.5°	13642.3	6280.9	2004.2	885.4	556.2	580.1	458.7	422.0	407.5	399.6	391.6
55°	14759.3	6718.8	1869.9	771.9	521.0	554.5	461.9	412.4	396.4	388.3	378.8
57.5°	15675.2	7051.3	1700.5	677.6	489.1	524.2	457.1	401.1	383.6	375.6	367.5
60°	15616.1	7083.2	1539.0	616.9	469.8	471.5	468.3	393.1	372.4	366.0	359.6
62.5°	14649.1	6688.5	1388.9	586.6	455.5	429.9	477.8	383.6	361.2	354.8	350.1
65°	13039.8	5769.5	1309.0	586.6	442.7	407.5	417.2	370.8	350.1	343.6	340.4
67.5°	10998.9	4636.4	1233.8	599.3	425.1	391.6	378.8	358.0	338.8	332.5	329.2
70°	8815.7	3648.7	1181.1	592.9	409.2	374.0	358.0	340.4	321.2	319.7	316.4
72.5°	6915.5	2931.1	1157.1	592.9	385.1	353.2	337.3	324.5	305.2	303.6	298.9
75°	5540.9	2200.7	1058.0	581.8	361.2	326.0	311.7	300.4	281.3	282.8	279.7
77.5°	4291.2	1556.6	883.8	524.2	330.8	295.6	284.5	276.5	254.1	255.7	255.7
80°	3356.2	1013.2	685.6	434.8	295.6	260.5	252.6	246.1	222.2	225.4	225.4
82.5°	2299.8	602.5	497.1	350.1	254.1	222.2	220.5	210.9	185.4	187.0	190.2
85°	1256.2	396.4	330.8	258.9	199.8	180.6	177.4	172.6	148.6	148.6	150.3
87.5°	231.7	212.6	195.0	171.0	134.2	129.4	124.7	129.4	111.9	108.6	108.6
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7
2.5°	6547.8	6437.5	6360.8	6293.7	6132.3	6143.5	6165.8	6197.9	6097.1	6149.9	6215.4
5°	5274.0	5183.0	5114.2	5007.1	4781.8	4701.9	4650.7	4628.3	4478.2	4510.1	4580.5
7.5°	3888.4	3886.8	3862.9	3743.0	3471.3	3306.7	3198.1	3164.4	3071.7	3106.9	3214.0
10°	2737.7	2766.5	2755.3	2648.2	2405.3	2287.0	2263.1	2330.2	2331.8	2400.5	2584.3
12.5°	1978.6	1962.6	1948.2	1860.3	1678.2	1658.9	1713.2	1805.9	1828.3	1901.9	2093.7
15°	1476.7	1438.4	1430.4	1361.6	1241.8	1259.4	1299.4	1347.3	1348.9	1400.0	1558.3
17.5°	1107.5	1107.5	1120.3	1075.6	989.3	981.3	960.6	947.8	928.5	949.3	1035.6
20°	859.8	899.8	931.7	906.1	827.9	789.5	749.5	723.9	709.6	711.2	736.7
22.5°	736.7	768.7	810.3	797.5	732.0	682.4	656.8	639.2	628.1	628.1	642.5
25°	674.4	695.2	733.6	727.2	671.3	631.3	610.5	592.9	580.1	578.6	592.9
27.5°	624.9	637.7	663.3	660.0	602.5	576.9	564.2	553.0	545.0	543.4	557.8
30°	580.1	586.6	599.3	594.5	551.4	525.8	521.0	516.2	511.5	513.0	533.8
32.5°	540.2	545.0	553.0	546.6	505.0	482.6	474.6	468.3	463.5	468.3	492.2
35°	495.4	509.8	519.5	516.2	471.5	444.3	426.7	410.7	404.4	409.2	436.3
37.5°	457.1	481.1	493.9	490.6	444.3	412.4	389.9	386.8	386.8	393.1	420.3
40°	442.7	460.3	471.5	466.7	420.3	388.3	375.6	370.8	372.4	378.8	407.5
42.5°	429.9	445.9	449.1	439.5	393.1	372.4	364.4	358.0	361.2	369.2	397.9
45°	418.7	431.5	429.9	415.5	370.8	356.4	356.4	351.6	353.2	359.6	389.9
47.5°	410.7	417.2	413.9	399.6	354.8	343.6	348.4	348.4	351.6	356.4	386.8
50°	397.9	402.7	399.6	386.8	342.0	332.5	337.3	343.6	346.8	351.6	378.8
52.5°	385.1	388.3	386.8	374.0	329.2	322.8	322.8	329.2	335.6	342.0	366.0
55°	372.4	375.6	377.2	367.5	319.7	313.2	311.7	311.7	318.0	327.7	353.2
57.5°	362.8	362.8	366.0	359.6	310.1	302.1	294.1	295.6	303.6	311.7	337.3
60°	351.6	353.2	358.0	351.6	297.3	284.5	278.0	286.1	289.3	297.3	324.5
62.5°	342.0	342.0	345.2	340.4	286.1	273.3	268.5	276.5	276.5	284.5	311.7
65°	334.0	332.5	332.5	330.8	274.9	262.1	258.9	262.1	263.7	271.7	298.9
67.5°	327.7	319.7	319.7	322.8	263.7	250.9	249.3	249.3	250.9	260.5	284.5
70°	313.2	306.9	305.2	316.4	252.6	236.5	236.5	233.3	236.5	241.3	266.9
72.5°	297.3	292.5	290.8	306.9	241.3	220.5	217.4	215.7	217.4	222.2	246.1
75°	276.5	273.3	276.5	300.4	230.2	203.0	198.1	196.6	196.6	198.1	223.7
77.5°	252.6	249.3	273.3	279.7	223.7	182.2	177.4	174.2	171.0	171.0	199.8
80°	223.7	222.2	263.7	236.5	214.2	159.8	151.8	147.0	143.8	142.2	171.0
82.5°	195.0	191.8	225.4	185.4	177.4	131.0	119.9	110.3	105.5	105.5	131.0
85°	159.8	158.3	177.4	135.8	123.1	95.9	79.9	71.9	65.6	65.6	84.7
87.5°	116.7	113.4	110.3	81.5	62.3	43.2	30.4	28.7	25.6	23.9	35.2
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7
2.5°	6312.9	6445.5	6696.4	6902.7	7177.5	7398.1	7649.0	7757.6
5°	4709.9	4919.3	5302.9	5630.4	6084.3	6504.6	6984.1	7246.3
7.5°	3378.6	3688.7	3979.5	4388.7	4956.0	5520.1	6140.3	6487.1
10°	2795.2	3079.7	3329.1	3619.9	4057.8	4692.3	5432.3	5823.9
12.5°	2315.8	2622.6	2886.4	3198.1	3565.6	4139.4	4983.2	5438.7
15°	1775.6	2109.6	2426.0	2801.7	3252.4	3907.6	4849.0	5357.2
17.5°	1216.2	1574.2	1964.2	2422.9	2966.3	3810.1	4976.8	5603.3
20°	826.2	1088.4	1511.9	2055.3	2709.0	3763.7	5258.1	6109.9
22.5°	679.2	797.5	1115.5	1710.1	2497.9	3814.9	5715.1	6776.3
25°	623.3	687.2	867.9	1406.5	2336.5	3950.7	6333.7	7529.1
27.5°	588.1	642.5	760.8	1189.1	2187.9	4136.1	7086.4	8449.7
30°	567.3	618.5	717.6	1077.2	2052.0	4296.0	7733.7	9143.3
32.5°	521.0	559.3	640.9	1013.2	1954.6	4425.4	8304.2	9792.2
35°	465.0	511.5	578.6	971.7	1951.4	4486.2	8841.3	10509.8
37.5°	444.3	489.1	538.6	949.3	1970.6	4537.3	9498.1	11323.2
40°	431.5	471.5	511.5	946.1	1986.6	4577.3	10140.6	12170.4
42.5°	420.3	460.3	506.7	923.7	1980.1	4631.6	10709.6	12897.5
45°	417.2	457.1	517.8	890.2	1978.6	4716.3	11161.8	13479.2
47.5°	413.9	474.6	514.6	853.4	1972.1	4895.3	11671.7	14021.0
50°	410.7	506.7	492.2	802.3	1924.3	5200.6	12357.2	14641.1
52.5°	409.2	511.5	468.3	732.0	1837.9	5652.8	13361.0	15504.1
55°	402.7	485.9	426.7	639.2	1713.2	6140.3	14436.6	16519.0
57.5°	388.3	433.1	402.7	548.2	1534.3	6480.7	15230.8	17303.7
60°	423.5	372.4	386.8	501.9	1320.1	6541.5	15266.0	17524.3
62.5°	404.4	338.8	370.8	485.9	1169.8	6145.1	14567.6	17260.6
65°	322.8	321.2	356.4	501.9	1147.5	5258.1	13388.2	16479.0
67.5°	294.1	308.4	342.0	521.0	1161.9	4142.5	11652.5	14653.9
70°	274.9	292.5	322.8	538.6	1187.4	3263.5	9381.5	11917.8
72.5°	255.7	270.1	303.6	556.2	1169.8	2574.7	7508.4	9180.1
75°	231.7	244.5	276.5	509.8	1003.7	1892.3	5966.1	6519.1
77.5°	204.6	215.7	243.0	402.7	754.3	1316.9	4468.6	4698.7
80°	175.8	180.6	201.4	294.1	492.2	787.9	3401.0	3747.8
82.5°	139.0	140.7	153.4	215.7	306.9	503.4	2358.9	2692.9
85°	89.5	92.7	99.1	151.8	206.1	322.8	1205.0	1380.9
87.5°	30.4	35.2	35.2	73.6	100.7	179.0	369.2	268.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)