

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: P271104

Luminaire Tested: **NVN-AF-05-LED-U-T2R-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P271104
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: STREETWORKS
Catalog Number: NVN-AF-05-LED-U-T2R-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30031.4 lumens
Efficiency: N/A
Efficacy: 93.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 320
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: 28.75 FT

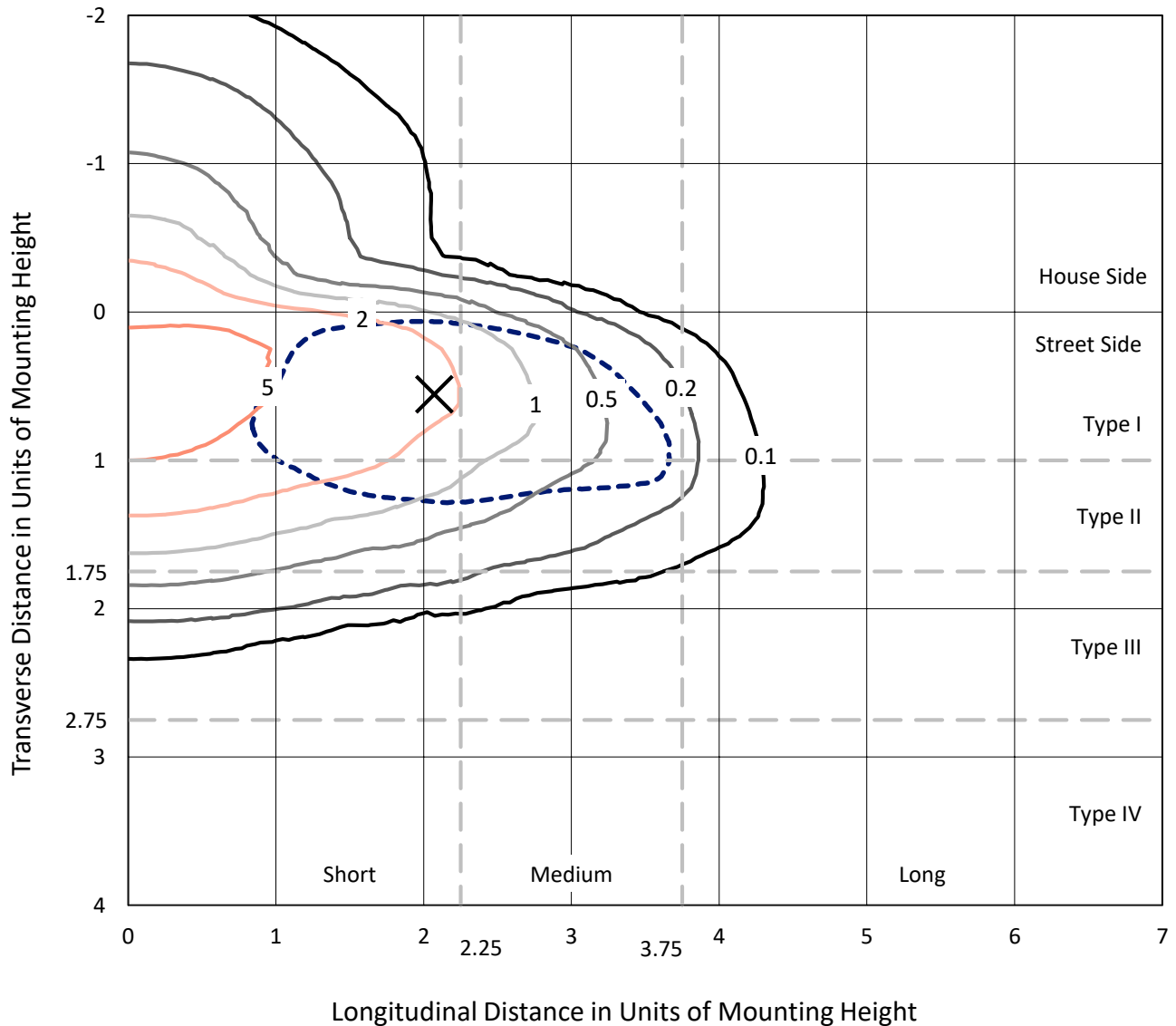


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

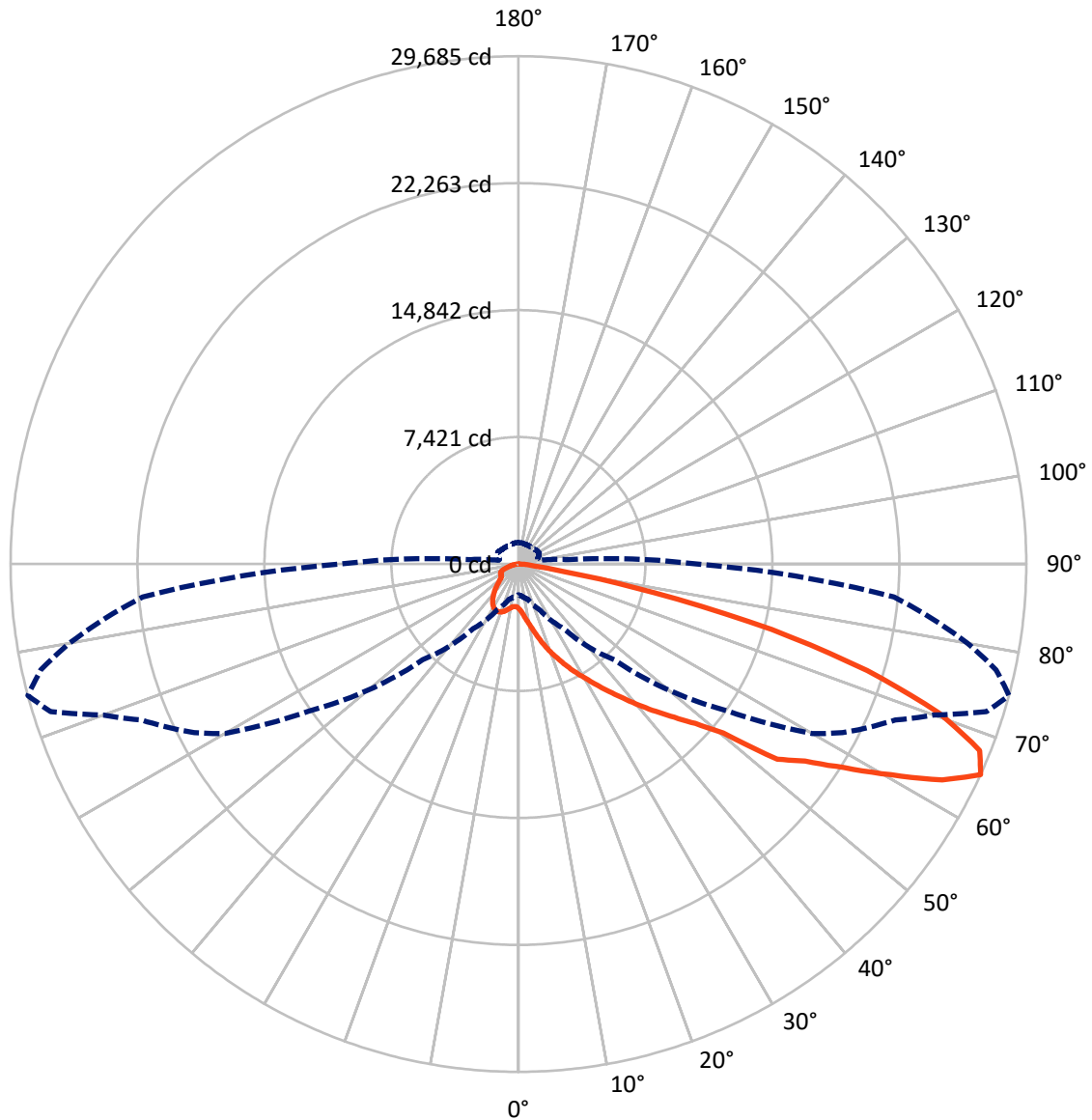


Based on 30 foot mounting height. Maximum calculated value = 8.3 fc
 Type II - Short - Semi-Cutoff

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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	4512.7	0.0	4512.7
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	25518.7	0.0	25518.7
	% Fixture	85.0	0.0	85.0
Total	Lumens	30031.4	0.0	30031.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	307.2	1.0
10°-20°	1173.3	3.9
20°-30°	2367.9	7.9
30°-40°	4021.3	13.4
40°-50°	5608.7	18.7
50°-60°	6874.2	22.9
60°-70°	6467.6	21.5
70°-80°	2836.0	9.4
80°-90°	375.2	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°	30031.4	100.0
0°-180°	30031.4	100.0

Coefficient of Utilization



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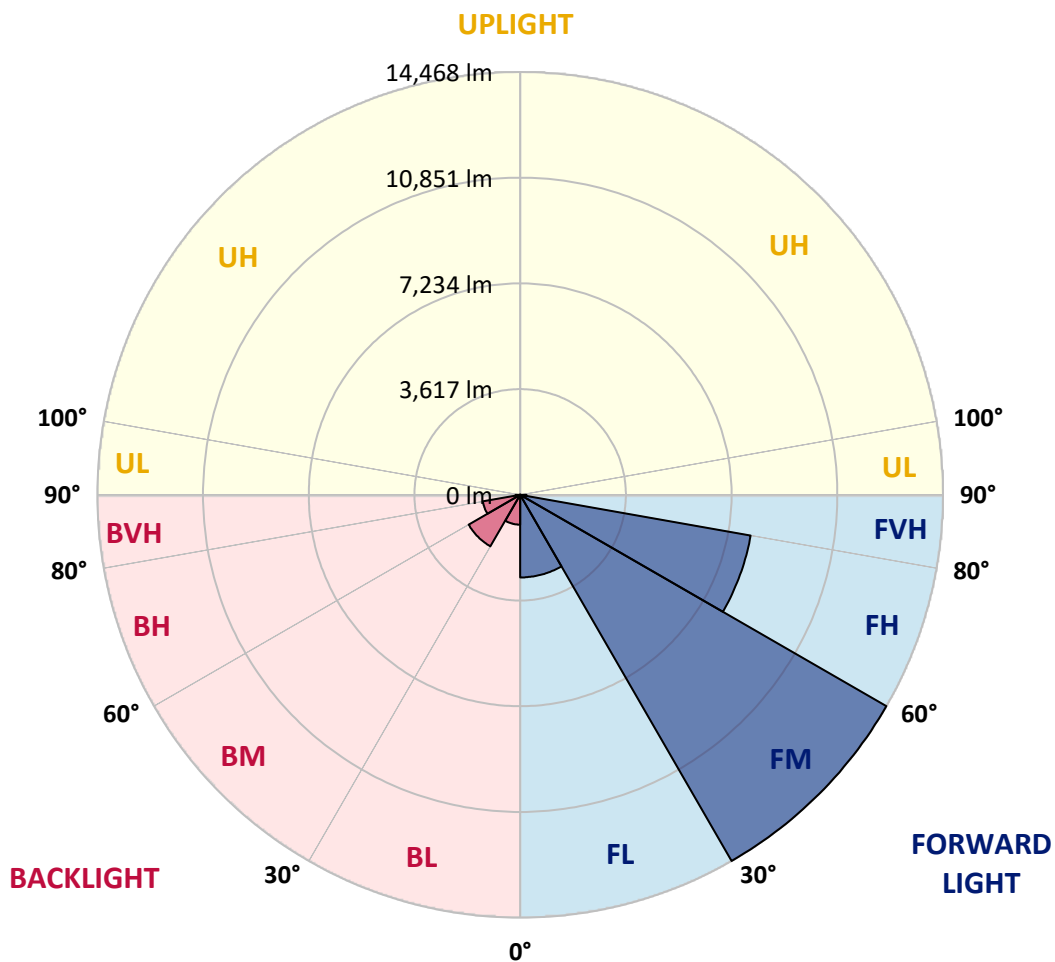
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2826.8	9.4			
FM	(30°-60°)	14467.8	48.2			
FH	(60°-80°)	8006.6	26.7			G4/12000
FVH	(80°-90°)	217.5	0.7			G2/225
BL	(0°-30°)	1021.6	3.4	B3/2500		
BM	(30°-60°)	2036.4	6.8	B2/2500		
BH	(60°-80°)	1297.0	4.3	B3/2500		G3/2500
BVH	(80°-90°)	157.7	0.5			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 II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0
2.5°	3276.4	3238.2	3242.1	3188.5	3110.2	3024.2	2953.5	2915.4	2882.9	2873.3	2819.8
5°	4285.2	4237.3	4220.1	4097.9	3914.5	3696.7	3480.8	3396.9	3328.0	3286.0	3182.9
7.5°	5110.5	5085.7	5062.7	4950.0	4768.6	4489.5	4141.8	4017.7	3903.0	3777.0	3652.8
10°	5672.2	5662.6	5653.0	5574.7	5423.7	5181.2	4806.7	4671.0	4527.7	4367.3	4204.8
12.5°	6096.3	6096.3	6104.0	6038.9	5947.1	5760.0	5420.0	5293.8	5148.6	4980.6	4795.2
15°	6380.9	6388.6	6428.7	6447.8	6400.1	6279.6	5981.6	5870.9	5733.3	5567.1	5383.6
17.5°	6570.1	6585.4	6644.6	6707.6	6768.6	6726.7	6505.0	6402.0	6277.7	6125.0	5953.0
20°	7009.5	6990.3	6992.2	6973.2	7063.0	7095.4	6973.2	6887.1	6787.9	6648.4	6491.7
22.5°	7932.3	7895.9	7802.3	7563.5	7454.6	7443.1	7370.6	7324.7	7248.2	7160.4	7003.7
25°	9135.9	9093.7	8908.4	8514.9	8190.0	7890.2	7756.4	7727.8	7678.2	7618.9	7506.1
27.5°	10379.5	10333.7	10094.9	9598.1	9174.0	8568.4	8151.8	8113.8	8067.9	8043.1	7989.5
30°	11474.2	11424.6	11189.5	10685.2	10173.1	9451.0	8685.0	8551.1	8472.9	8480.4	8449.9
32.5°	12435.1	12391.2	12127.6	11613.6	11094.0	10392.9	9376.5	9168.2	8992.6	8927.5	8950.4
35°	13241.3	13201.2	12912.7	12395.1	11871.6	11288.9	10266.8	9953.5	9666.9	9487.3	9466.2
37.5°	13715.1	13692.1	13489.7	13050.2	12530.6	12102.8	11263.9	10916.4	10494.1	10232.4	10117.8
40°	13688.5	13713.3	13678.9	13480.1	13077.0	12765.6	12303.2	11959.5	11546.8	11156.9	10924.0
42.5°	13298.7	13333.1	13487.8	13590.9	13482.0	13292.8	13210.7	12954.7	12584.1	12171.5	11848.6
45°	12763.7	12794.3	12994.9	13367.4	13678.9	13732.3	14005.6	13877.6	13564.1	13212.7	12857.4
47.5°	11944.1	12003.3	12236.4	12828.7	13569.9	14085.8	14672.2	14731.5	14549.9	14259.7	13927.2
50°	10757.7	10836.1	11162.8	12005.3	13157.2	14448.8	15663.7	15889.2	15816.6	15522.4	15186.1
52.5°	9542.8	9621.0	10056.6	10952.7	12492.4	14597.7	16640.1	17216.9	17633.5	17937.3	17996.5
55°	8278.1	8365.8	8843.5	9875.1	11606.0	14408.6	17337.4	17992.6	18414.8	18731.9	18859.9
57.5°	6850.8	6950.2	7412.5	8455.7	10352.7	13648.3	18113.0	19041.5	19669.9	20159.0	20434.1
60°	5213.7	5337.8	5817.3	6868.1	8706.0	12192.4	18458.8	19832.4	20831.5	21565.3	22000.7
62.5°	3305.0	3431.2	3929.7	5020.6	6831.8	10203.7	17480.7	19484.6	21188.9	22274.0	23072.4
65°	1803.4	1858.9	2135.9	2957.4	4606.1	7916.9	15000.8	17364.1	19819.0	21356.9	22583.4
67.5°	1352.6	1360.3	1388.9	1589.6	2453.0	5345.5	11728.2	13892.7	16619.1	18598.2	20063.6
70°	1184.4	1184.4	1188.3	1190.3	1331.6	2896.2	7945.6	9938.2	12437.0	14439.1	16259.9
72.5°	1062.2	1050.7	1047.0	1024.0	1043.1	1484.4	4325.2	6115.3	8222.5	10469.2	12167.6
75°	917.0	915.2	915.2	892.1	903.7	1045.0	1876.1	2934.5	4567.9	6659.9	8331.5
77.5°	792.8	779.5	781.3	768.1	804.3	800.5	890.3	1209.3	1988.8	3498.0	4885.1
80°	653.3	643.8	649.6	641.8	699.2	592.3	599.9	739.3	987.6	1534.0	2162.6
82.5°	483.4	487.2	523.4	519.6	588.4	399.2	439.5	552.1	664.8	764.2	831.0
85°	282.7	288.4	376.4	395.4	431.7	210.2	269.4	328.6	370.6	410.7	428.0
87.5°	30.5	40.2	210.2	216.0	193.0	63.1	109.0	137.5	147.1	156.7	137.5
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°	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0
2.5°	2802.6	2777.7	2751.1	2735.8	2709.0	2686.1	2644.2	2609.7	2571.5	2544.7	2533.3
5°	3131.2	3072.1	3009.0	2963.1	2905.7	2856.2	2760.6	2646.0	2609.7	2533.3	2514.1
7.5°	3559.2	3452.1	3345.2	3257.3	3158.0	3075.8	2915.4	2709.0	2682.2	2560.0	2533.3
10°	4061.6	3904.9	3746.4	3610.7	3465.5	3339.4	3102.6	2812.1	2783.5	2626.9	2600.1
12.5°	4623.2	4432.2	4227.9	4025.3	3853.4	3675.8	3352.8	2972.8	2926.8	2741.4	2705.2
15°	5202.2	4995.8	4759.0	4514.4	4302.3	4067.3	3660.5	3182.9	3098.8	2881.0	2831.3
17.5°	5773.3	5549.9	5301.4	5028.4	4779.9	4499.2	3992.8	3417.8	3272.6	3018.6	2955.5
20°	6325.5	6098.1	5836.4	5569.0	5259.4	4938.5	4333.0	3648.9	3427.4	3133.2	3051.1
22.5°	6827.9	6633.1	6371.4	6063.7	5750.5	5389.4	4678.7	3880.0	3562.9	3221.1	3116.0
25°	7357.2	7179.4	6919.6	6623.6	6258.6	5857.5	5036.0	4099.9	3671.9	3268.8	3138.9
27.5°	7892.1	7739.3	7494.6	7183.2	6791.6	6346.5	5399.0	4302.3	3759.8	3284.1	3127.4
30°	8463.3	8344.9	8119.4	7771.7	7376.3	6883.4	5794.3	4501.0	3815.2	3263.1	3075.8
32.5°	9003.9	9000.1	8799.5	8438.5	8012.4	7469.9	6210.9	4701.5	3843.8	3203.9	2986.1
35°	9565.6	9643.9	9493.0	9149.1	8700.2	8098.4	6671.4	4915.5	3845.7	3098.8	2869.5
37.5°	10203.7	10343.2	10276.3	9949.6	9477.7	8814.8	7212.0	5156.4	3834.2	2953.5	2699.4
40°	10929.7	11120.7	11118.9	10843.7	10339.3	9617.3	7840.4	5425.8	3807.6	2772.1	2498.8
42.5°	11760.7	11988.2	12051.1	11779.8	11269.7	10494.1	8560.8	5721.8	3765.4	2592.5	2286.8
45°	12712.2	12912.7	13031.3	12779.0	12267.1	11449.3	9387.9	6058.0	3714.0	2361.4	2044.3
47.5°	13730.5	13963.4	14141.2	13925.3	13378.8	12538.4	10368.0	6491.7	3694.8	2097.7	1782.4
50°	14993.3	15233.9	15617.9	15520.5	15220.5	14544.3	12440.8	7515.7	3702.5	1847.5	1562.7
52.5°	18126.4	18678.5	19163.7	18947.9	18235.2	17075.6	14125.8	8085.0	3541.9	1643.0	1409.9
55°	19072.0	19698.7	20415.2	20325.3	19641.4	18472.1	15457.5	8560.8	3387.1	1494.1	1310.5
57.5°	20726.6	21465.8	22466.9	22447.7	21609.1	20292.8	17171.1	9130.1	3320.3	1408.1	1261.0
60°	22478.4	23420.3	24803.5	25019.2	24108.1	22738.2	19196.2	9829.3	3329.8	1360.3	1232.3
62.5°	23758.4	25139.6	27151.4	27797.1	26723.4	25214.2	21297.7	10528.5	3272.6	1304.9	1197.9
65°	23836.6	25825.6	28679.6	29684.6	28597.5	26658.5	22038.9	10391.0	2928.7	1230.3	1142.5
67.5°	21926.3	24516.8	27984.3	29086.6	27974.7	25768.2	20739.9	9084.2	2380.4	1100.5	1047.0
70°	18262.1	21269.1	24868.4	26096.8	25177.9	22944.5	18050.0	7255.9	1778.6	928.5	903.7
72.5°	14112.6	16917.1	20185.9	21322.6	20619.4	18655.6	14236.7	5288.1	1270.5	752.7	733.6
75°	10089.1	12477.2	14849.9	15283.7	14590.1	12786.7	9237.0	3303.2	890.3	617.0	590.4
77.5°	6247.2	7800.3	8652.5	8094.5	7210.1	5993.1	3759.8	1631.5	592.3	502.4	475.7
80°	2772.1	3253.5	3037.6	2707.1	2137.7	1757.7	1148.2	724.0	382.0	387.8	372.5
82.5°	932.4	985.8	959.0	953.3	859.7	752.7	487.2	313.2	213.9	248.3	242.6
85°	454.7	475.7	477.5	494.7	429.8	334.3	131.8	124.1	91.6	133.8	139.4
87.5°	137.5	139.4	126.1	137.5	110.9	76.4	24.9	34.3	17.2	32.5	32.5
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°	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0
2.5°	2512.2	2504.7	2491.2	2476.0	2472.1	2453.0	2447.3	2437.7	2432.0	2422.5	2414.9
5°	2489.4	2476.0	2460.6	2443.5	2443.5	2416.7	2405.2	2393.9	2393.9	2376.6	2369.0
7.5°	2512.2	2495.0	2477.9	2462.6	2468.4	2437.7	2426.3	2414.9	2412.8	2395.7	2388.1
10°	2577.1	2560.0	2539.0	2523.7	2517.9	2493.2	2479.9	2462.6	2451.1	2439.6	2428.2
12.5°	2676.5	2653.7	2626.9	2594.3	2581.0	2560.0	2539.0	2516.1	2489.4	2477.9	2460.6
15°	2794.9	2756.8	2720.4	2680.4	2644.2	2623.1	2594.3	2558.2	2521.8	2506.5	2483.5
17.5°	2892.5	2852.3	2800.7	2752.9	2688.0	2670.8	2630.6	2586.8	2527.6	2521.8	2487.3
20°	2974.6	2913.5	2850.4	2793.1	2693.7	2684.1	2634.5	2582.9	2498.8	2498.8	2456.9
22.5°	3020.5	2936.4	2861.9	2785.5	2661.3	2653.7	2596.3	2535.1	2432.0	2435.8	2384.2
25°	3028.0	2926.8	2833.3	2741.4	2598.2	2584.9	2512.2	2445.4	2332.7	2325.1	2271.5
27.5°	2997.6	2879.1	2770.2	2659.3	2504.7	2476.0	2395.7	2315.6	2204.7	2185.5	2128.3
30°	2926.8	2787.4	2665.1	2537.1	2374.7	2328.9	2244.8	2162.6	2049.9	2025.0	1971.6
32.5°	2814.1	2655.5	2519.8	2391.8	2212.3	2154.9	2071.0	1988.8	1880.0	1860.7	1811.2
35°	2665.1	2487.3	2344.1	2208.6	2028.9	1969.7	1889.4	1816.8	1717.5	1709.8	1675.5
37.5°	2477.9	2292.6	2139.8	2009.8	1839.8	1809.1	1727.0	1673.5	1591.3	1599.1	1581.8
40°	2265.7	2076.6	1931.4	1816.8	1669.7	1643.0	1593.4	1553.2	1482.6	1503.6	1505.4
42.5°	2051.8	1862.6	1730.9	1627.6	1501.5	1484.4	1450.0	1427.0	1373.6	1415.6	1432.8
45°	1809.1	1633.5	1520.7	1442.4	1348.7	1348.7	1331.6	1329.8	1293.4	1352.6	1369.7
47.5°	1574.2	1436.7	1358.3	1310.5	1245.6	1276.2	1270.5	1285.7	1259.0	1320.1	1335.4
50°	1396.5	1301.0	1253.2	1230.3	1184.4	1232.3	1243.8	1264.8	1241.7	1295.3	1306.8
52.5°	1283.8	1220.7	1194.0	1188.3	1155.8	1215.0	1234.1	1253.2	1226.5	1276.2	1274.2
55°	1220.7	1178.8	1169.2	1180.6	1155.8	1213.2	1232.3	1245.6	1222.8	1257.1	1255.1
57.5°	1197.9	1175.0	1180.6	1197.9	1180.6	1228.4	1238.0	1253.2	1230.3	1245.6	1253.2
60°	1196.0	1196.0	1218.9	1241.7	1230.3	1264.8	1270.5	1268.5	1247.6	1249.5	1253.2
62.5°	1184.4	1213.2	1251.3	1287.6	1283.8	1325.9	1329.8	1304.9	1287.6	1268.5	1262.7
65°	1148.2	1196.0	1251.3	1301.0	1308.7	1373.6	1381.2	1356.4	1344.9	1312.5	1287.6
67.5°	1067.9	1129.1	1194.0	1255.1	1268.5	1356.4	1373.6	1383.2	1388.9	1367.8	1335.4
70°	932.4	995.3	1062.2	1132.9	1151.9	1249.5	1285.7	1329.8	1364.0	1394.6	1383.2
72.5°	758.4	815.8	873.1	938.0	966.7	1067.9	1115.8	1192.1	1245.6	1323.9	1356.4
75°	601.8	636.2	670.6	710.6	733.6	833.0	892.1	983.9	1056.4	1165.5	1238.0
77.5°	473.8	491.0	508.3	525.4	534.9	590.4	638.1	729.9	813.9	951.5	1058.5
80°	364.9	374.5	376.4	382.0	378.2	405.0	422.3	477.5	550.2	685.9	812.0
82.5°	234.9	242.6	246.4	255.9	237.0	271.3	282.7	288.4	326.8	426.1	515.8
85°	131.8	133.8	135.6	139.4	112.6	147.1	148.9	139.4	135.6	175.8	198.6
87.5°	32.5	30.5	32.5	32.5	13.4	30.5	30.5	21.0	15.4	28.7	22.9
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°	2602.0	2602.0	2602.0	2602.0	2602.0	2602.0
2.5°	2397.7	2393.9	2395.7	2386.2	2382.3	2384.2
5°	2359.4	2351.8	2351.8	2346.1	2338.4	2338.4
7.5°	2376.6	2361.4	2355.5	2344.1	2332.7	2334.5
10°	2403.3	2376.6	2357.5	2340.4	2326.9	2326.9
12.5°	2420.6	2372.8	2344.1	2321.2	2305.9	2305.9
15°	2424.3	2351.8	2309.7	2284.8	2269.6	2269.6
17.5°	2401.3	2309.7	2256.3	2223.8	2206.5	2210.4
20°	2344.1	2231.4	2168.4	2134.0	2116.8	2118.7
22.5°	2254.3	2124.4	2051.8	2011.8	1994.4	1994.4
25°	2132.0	1990.7	1912.3	1880.0	1864.6	1864.6
27.5°	1992.6	1847.5	1778.6	1753.9	1744.2	1744.2
30°	1836.0	1715.7	1665.8	1648.7	1633.5	1633.5
32.5°	1704.2	1618.1	1601.0	1578.1	1537.9	1536.0
35°	1599.1	1589.6	1576.2	1507.4	1450.0	1442.4
37.5°	1541.8	1599.1	1515.0	1396.5	1350.7	1348.7
40°	1511.2	1564.7	1419.4	1362.2	1356.4	1356.4
42.5°	1438.5	1476.8	1413.8	1381.2	1381.2	1383.2
45°	1362.2	1394.6	1427.0	1398.4	1408.1	1409.9
47.5°	1308.7	1373.6	1427.0	1402.3	1421.4	1432.8
50°	1259.0	1354.6	1398.4	1398.4	1419.4	1421.4
52.5°	1247.6	1327.8	1371.7	1392.7	1394.6	1385.0
55°	1249.5	1306.8	1350.7	1377.5	1366.0	1366.0
57.5°	1247.6	1295.3	1333.5	1343.1	1348.7	1348.7
60°	1249.5	1280.1	1310.5	1306.8	1325.9	1325.9
62.5°	1255.1	1259.0	1274.2	1270.5	1299.0	1299.0
65°	1268.5	1232.3	1222.8	1226.5	1261.0	1259.0
67.5°	1293.4	1196.0	1165.5	1167.3	1216.9	1209.3
70°	1329.8	1146.2	1100.5	1088.9	1172.9	1159.6
72.5°	1341.1	1088.9	1016.3	1004.9	1054.6	1016.3
75°	1287.6	1043.1	926.6	888.3	867.4	855.8
77.5°	1148.2	1014.5	833.0	752.7	720.3	712.5
80°	951.5	955.2	710.6	615.2	714.5	712.5
82.5°	718.4	825.4	569.3	533.1	517.8	431.7
85°	347.7	620.9	437.5	366.8	219.6	208.2
87.5°	30.5	259.8	252.2	164.3	74.5	70.6
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)