

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: P196307

Luminaire Tested: **NAV-AF-05-D-UNV-T3-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196307
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
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-T3-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24858.7 lumens
Efficiency: N/A
Efficacy: 118.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 210
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

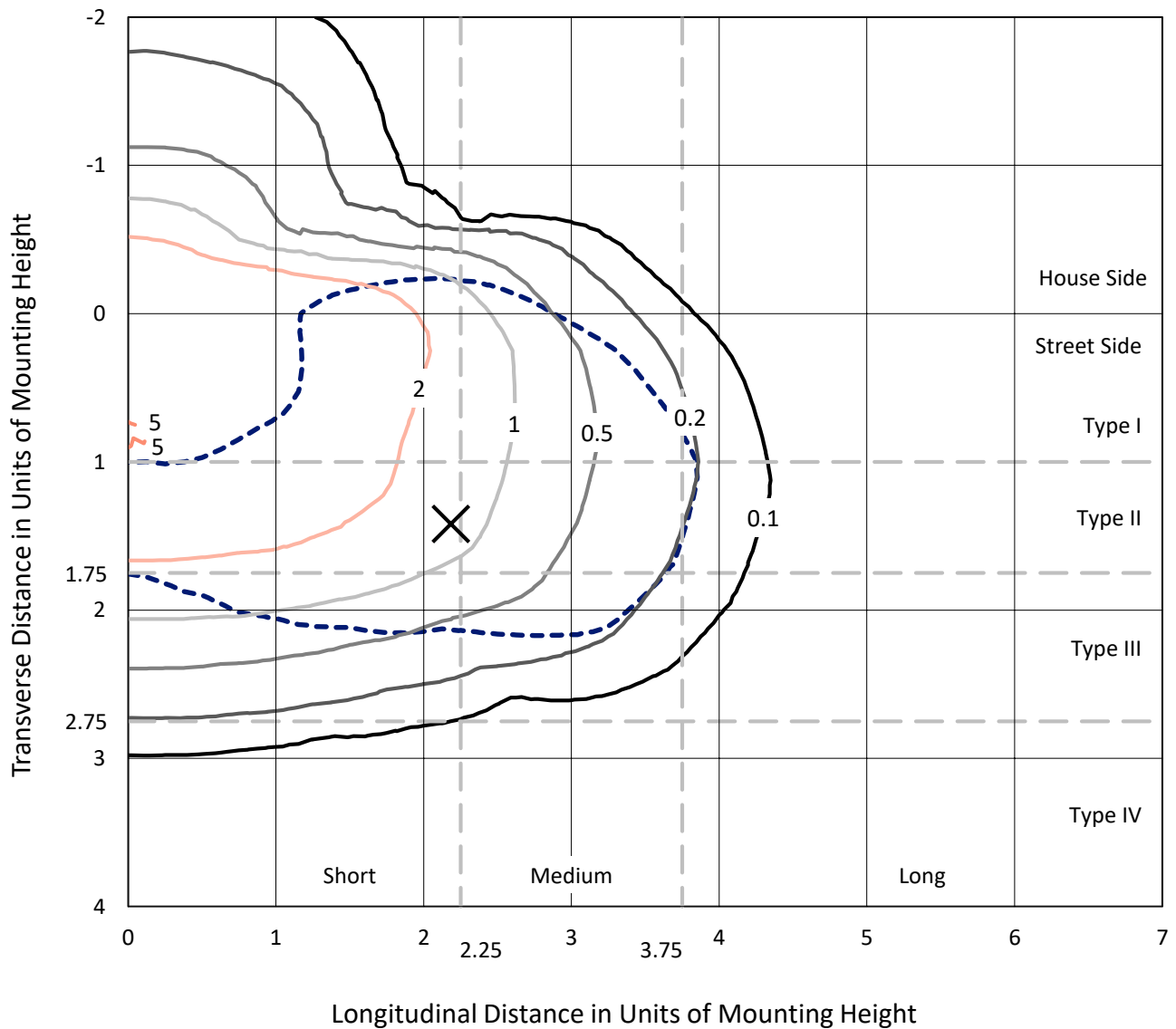


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Iso-Footcandle Lines of Horizontal Illumination

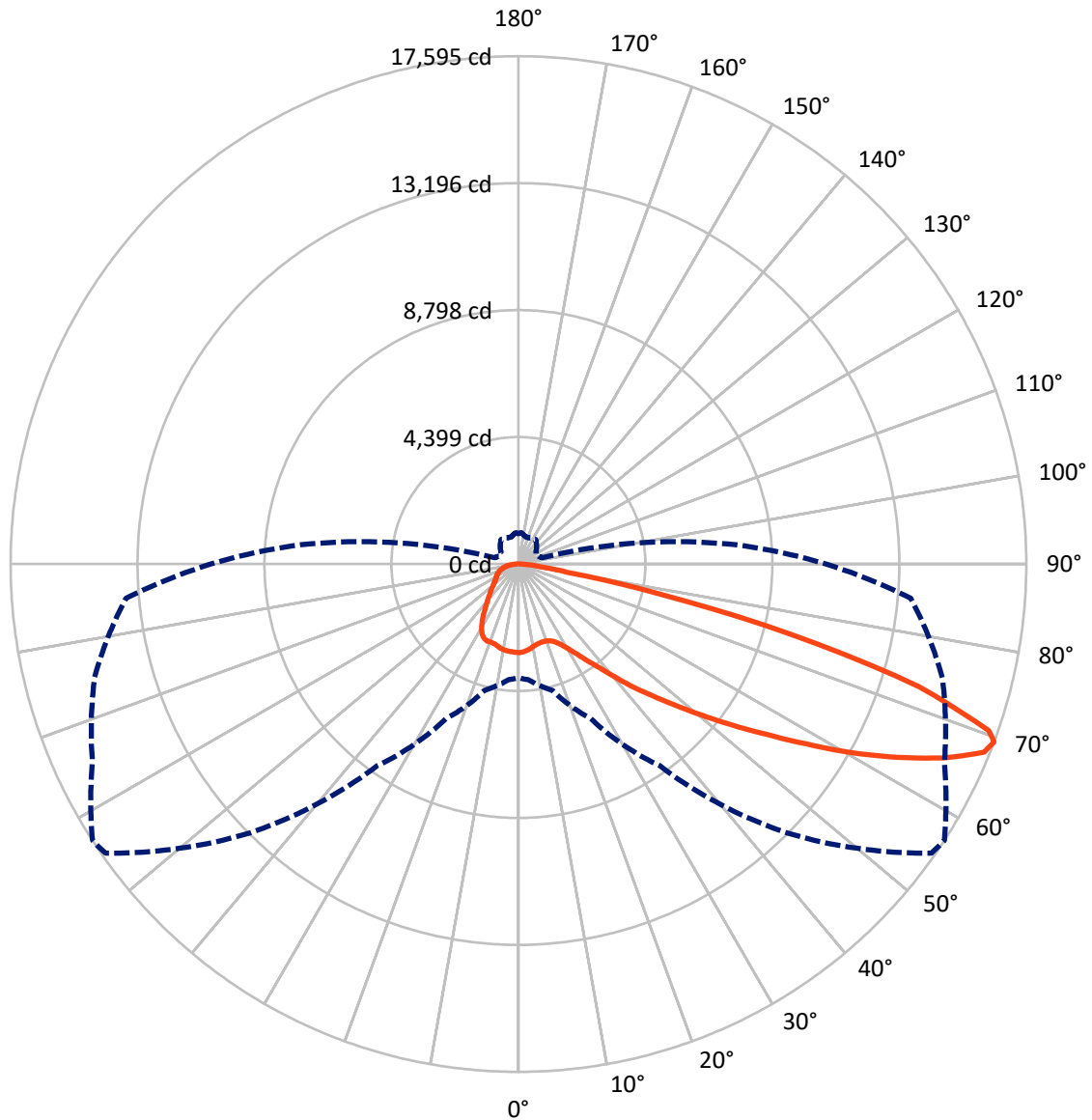
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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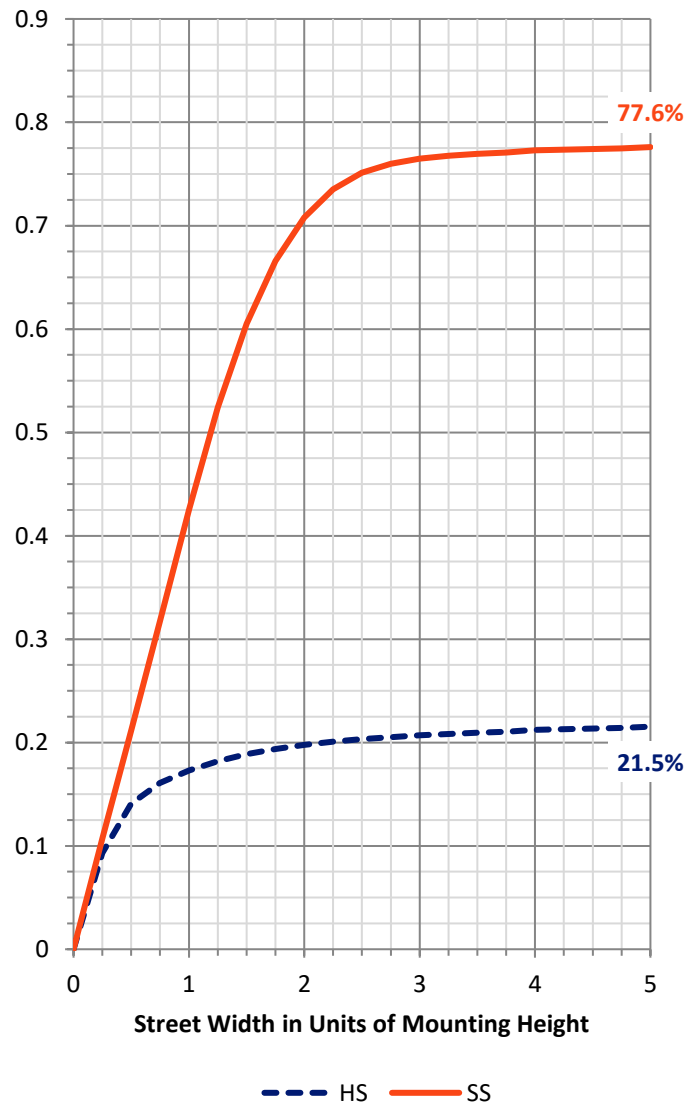
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5485.4	0.0	5485.4
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	19373.3	0.0	19373.3
	% Fixture	77.9	0.0	77.9
Total	Lumens	24858.7	0.0	24858.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	287.6	1.2
10°-20°	817.6	3.3
20°-30°	1360.1	5.5
30°-40°	2220.9	8.9
40°-50°	3748.4	15.1
50°-60°	5830.9	23.5
60°-70°	6945.9	27.9
70°-80°	3235.8	13.0
80°-90°	411.6	1.7
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°	24858.7	100.0
0°-180°	24858.7	100.0

Coefficient of Utilization



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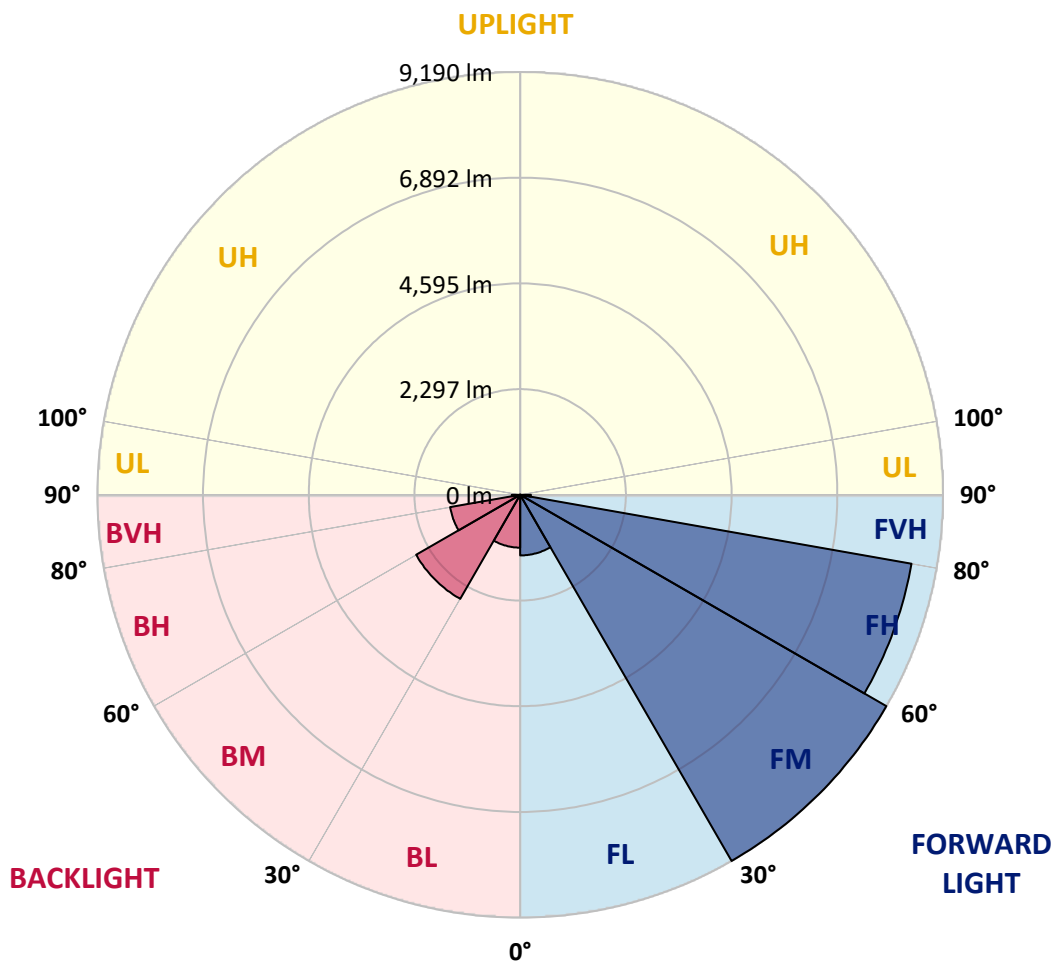
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1316.5	5.3			
FM	(30°-60°)	9189.5	37.0			
FH	(60°-80°)	8636.0	34.7			G4/12000
FVH	(80°-90°)	231.3	0.9			G3/500
BL	(0°-30°)	1148.8	4.6	B3/2500		
BM	(30°-60°)	2610.8	10.5	B3/5000		
BH	(60°-80°)	1545.7	6.2	B3/2500		G3/2500
BVH	(80°-90°)	180.2	0.7			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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	3071.5	3071.5	3071.5	3071.5	3071.5	3071.5	3071.5	3071.5	3071.5	3071.5	3071.5
2.5°	3054.0	3054.0	3062.0	3062.0	3062.0	3058.8	3049.2	3052.5	3046.0	3041.3	3033.4
5°	2991.9	2995.1	3004.7	3007.9	3012.7	3014.2	3014.2	3012.7	3014.2	3014.2	3009.5
7.5°	2906.0	2909.2	2920.3	2926.8	2941.1	2953.8	2960.1	2960.1	2968.1	2974.4	2976.1
10°	2853.5	2853.5	2859.9	2859.9	2871.0	2877.4	2898.0	2896.5	2918.8	2939.4	2949.0
12.5°	2847.2	2847.2	2844.0	2832.9	2826.4	2824.9	2845.5	2848.7	2882.2	2918.8	2936.3
15°	2867.8	2867.8	2858.3	2836.0	2812.1	2800.9	2821.7	2828.0	2864.7	2907.6	2934.6
17.5°	2934.6	2933.1	2912.3	2867.8	2826.4	2808.9	2815.3	2821.7	2855.1	2904.5	2937.8
20°	3082.7	3082.7	3038.2	2956.9	2885.3	2844.0	2834.4	2839.2	2863.0	2909.2	2952.1
22.5°	3342.1	3346.9	3267.3	3133.6	3011.1	2923.5	2885.3	2890.1	2901.3	2945.8	2993.6
25°	3724.1	3711.3	3598.3	3408.9	3218.0	3068.3	2990.4	2995.1	2995.1	3036.5	3085.8
27.5°	4128.3	4131.5	3969.2	3765.4	3513.9	3291.1	3167.1	3165.4	3163.9	3203.7	3256.2
30°	4585.1	4586.6	4398.8	4163.3	3875.2	3590.4	3404.2	3402.5	3388.2	3437.6	3506.0
32.5°	5084.8	5083.1	4865.2	4599.4	4279.5	3956.4	3714.5	3712.9	3701.8	3768.7	3851.4
35°	5638.6	5638.6	5422.2	5094.3	4748.9	4389.3	4109.2	4107.6	4114.0	4204.6	4282.7
37.5°	6305.4	6319.7	6058.7	5660.9	5283.6	4900.1	4573.9	4564.3	4516.6	4669.4	4798.3
40°	7000.9	7040.7	6770.1	6305.4	5898.0	5501.7	5142.1	5135.7	5094.3	5256.6	5465.1
42.5°	7753.7	7844.4	7543.5	7069.3	6625.2	6197.1	5835.9	5818.4	5659.3	5912.3	6238.6
45°	8740.4	8799.2	8363.1	7933.5	7514.9	7026.3	6596.6	6502.8	6343.6	6668.3	7091.6
47.5°	9412.0	9383.3	9111.2	8823.2	8554.1	8086.2	7425.8	7306.4	7112.3	7542.0	8008.3
50°	9828.9	9849.6	9696.9	9682.5	9668.2	9341.9	8361.6	8218.4	7994.0	8503.2	9047.5
52.5°	10104.2	10010.4	10037.4	10362.1	10755.2	10599.2	9419.9	9260.8	9030.0	9539.3	10153.6
55°	9989.6	9865.5	10115.3	10755.2	11679.8	11714.8	10581.7	10417.7	10220.4	10640.5	11484.1
57.5°	9515.4	9577.5	9972.1	10861.8	12311.6	12714.3	11917.0	11749.8	11361.5	11788.0	12747.7
60°	8848.6	8974.3	9577.5	10693.1	12754.0	13492.5	13382.7	13271.3	12602.9	12905.2	14075.0
62.5°	8132.5	8256.5	8998.2	10405.0	12555.1	14181.6	14821.3	14752.9	13973.1	13981.1	14916.9
65°	7074.1	7125.1	7882.6	9618.8	12002.9	14803.8	16261.6	16201.2	15282.9	14899.4	15152.4
67.5°	5342.6	5406.2	6028.5	7593.0	10322.3	14466.5	17412.3	17402.7	16070.7	15239.9	14592.2
69°	3945.2	4023.3	4531.0	5894.9	8535.1	13180.5	17466.4	17595.3	16283.9	15204.9	13645.2
70°	2887.0	2976.1	3445.5	4678.9	7109.1	11761.0	17003.3	17280.2	16202.7	14983.7	12906.9
72.5°	1227.0	1257.3	1488.0	2111.9	3606.3	7091.6	13927.0	14509.4	14633.6	13425.6	10083.5
75°	768.6	778.3	868.9	1083.8	1604.2	2933.1	9018.8	9813.0	10925.4	10416.2	6751.1
77.5°	579.3	587.3	639.8	746.4	996.3	1095.0	4184.0	4989.2	6257.7	6127.2	3359.6
80°	444.1	448.8	483.9	542.7	701.8	685.9	1357.6	1706.1	2611.6	2304.4	1188.9
82.5°	348.5	350.2	380.3	391.5	490.2	461.6	681.2	759.1	1055.2	876.9	580.9
85°	308.7	313.5	343.7	286.4	313.5	278.5	374.0	405.8	560.2	528.4	219.6
87.5°	157.5	165.5	288.1	245.1	157.5	132.1	163.9	176.7	227.6	246.6	106.6
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3071.5	3071.5	3071.5	3071.5	3071.5	3071.5	3071.5	3071.5	3071.5	3071.5	3071.5
2.5°	3034.9	3036.5	3041.3	3049.2	3062.0	3077.9	3097.0	3116.1	3127.3	3135.2	3132.0
5°	3009.5	3011.1	3020.6	3034.9	3050.8	3074.7	3106.6	3130.4	3147.9	3159.1	3157.4
7.5°	2977.6	2982.4	3001.5	3017.4	3039.7	3058.8	3084.3	3106.6	3124.1	3135.2	3133.6
10°	2953.8	2958.6	2982.4	3003.1	3022.2	3025.4	3020.6	3014.2	3012.7	3020.6	3017.4
12.5°	2942.6	2952.1	2974.4	2988.8	2980.8	2950.6	2915.6	2901.3	2896.5	2912.3	2914.0
15°	2945.8	2953.8	2972.9	2963.3	2920.3	2869.4	2850.4	2861.5	2871.0	2880.5	2882.2
17.5°	2953.8	2958.6	2963.3	2928.3	2867.8	2834.4	2828.0	2816.9	2788.3	2772.3	2770.8
20°	2968.1	2974.4	2966.5	2910.8	2856.7	2812.1	2735.8	2667.3	2602.1	2567.0	2552.7
22.5°	3017.4	3022.2	2998.4	2944.3	2861.5	2716.7	2562.3	2444.5	2344.2	2290.1	2269.4
25°	3114.5	3122.5	3089.0	3020.6	2804.2	2551.1	2333.1	2174.0	2048.3	1983.0	1965.5
27.5°	3284.8	3292.8	3256.2	3077.9	2670.5	2329.9	2065.7	1908.2	1800.0	1744.2	1736.3
30°	3539.4	3550.6	3517.1	3076.3	2466.7	2048.3	1804.7	1712.4	1650.3	1612.2	1610.5
32.5°	3892.7	3934.1	3797.3	3022.2	2215.3	1763.4	1607.4	1575.5	1545.3	1519.9	1519.9
35°	4341.5	4438.6	4074.2	2909.2	1938.4	1569.2	1497.6	1467.3	1429.2	1402.1	1398.9
37.5°	4877.8	5029.0	4271.5	2708.7	1699.7	1475.3	1430.7	1381.4	1320.9	1268.4	1255.7
40°	5614.7	5649.8	4368.6	2382.5	1521.4	1424.4	1368.7	1306.6	1230.2	1171.3	1164.9
42.5°	6354.8	6240.2	4349.5	2032.3	1419.5	1378.2	1305.0	1236.5	1168.1	1118.8	1118.8
45°	7196.7	6755.8	4204.6	1680.6	1327.3	1325.7	1246.2	1180.9	1128.3	1091.8	1083.8
47.5°	8001.9	7218.9	3954.8	1421.2	1231.8	1273.2	1207.9	1155.4	1107.7	1072.7	1066.3
50°	8979.1	7755.2	3689.1	1239.7	1139.5	1227.0	1192.0	1164.9	1118.8	1058.3	1052.0
52.5°	9949.8	8382.3	3483.8	1102.8	1058.3	1190.4	1201.6	1204.7	1161.8	1044.0	1036.0
55°	10992.3	9052.3	3267.3	996.3	991.4	1172.9	1223.9	1220.7	1199.9	1047.2	1034.4
57.5°	11983.8	9725.5	2944.3	921.5	939.0	1155.4	1228.7	1177.7	1141.1	1063.2	1042.4
60°	12805.0	10282.5	2469.9	868.9	894.4	1120.4	1196.8	1120.4	1058.3	1059.9	1040.9
62.5°	13204.5	10438.5	1889.1	808.4	857.8	1063.2	1150.6	1077.5	1020.1	1066.3	1055.2
65°	12900.4	9994.4	1346.4	752.8	813.2	996.3	1123.6	1040.9	1001.1	1098.1	1085.4
67.5°	11808.7	8784.9	977.1	703.4	770.3	927.8	1072.7	1007.4	981.9	1122.0	1093.3
69°	10648.5	7585.0	846.7	674.7	740.0	891.2	1039.2	989.9	967.6	1088.5	1047.2
70°	9684.1	6660.3	781.4	657.2	714.5	870.5	1013.7	978.8	953.3	1048.7	999.4
72.5°	6943.6	4304.9	657.2	604.8	647.7	824.4	958.1	937.3	899.2	946.9	915.1
75°	4195.1	2247.1	558.6	550.7	577.7	760.8	892.8	867.4	829.2	833.9	818.1
77.5°	1927.2	1037.7	467.9	487.0	504.5	681.2	813.2	784.6	749.6	736.8	738.5
80°	845.1	606.3	391.5	415.4	424.9	612.7	727.3	695.5	657.2	725.7	673.2
82.5°	456.7	351.7	305.6	321.5	348.5	533.2	631.8	590.4	553.8	644.6	520.4
85°	184.6	179.8	206.8	222.8	241.9	383.5	528.4	485.4	440.8	394.7	385.1
87.5°	79.6	85.9	101.9	108.2	128.9	238.8	354.9	310.4	311.9	267.4	262.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)