

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: P196118

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196118  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-02-D-UNV-SL3-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10577.3 lumens  
Efficiency: N/A  
Efficacy: 93.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B1 - U0 - G2

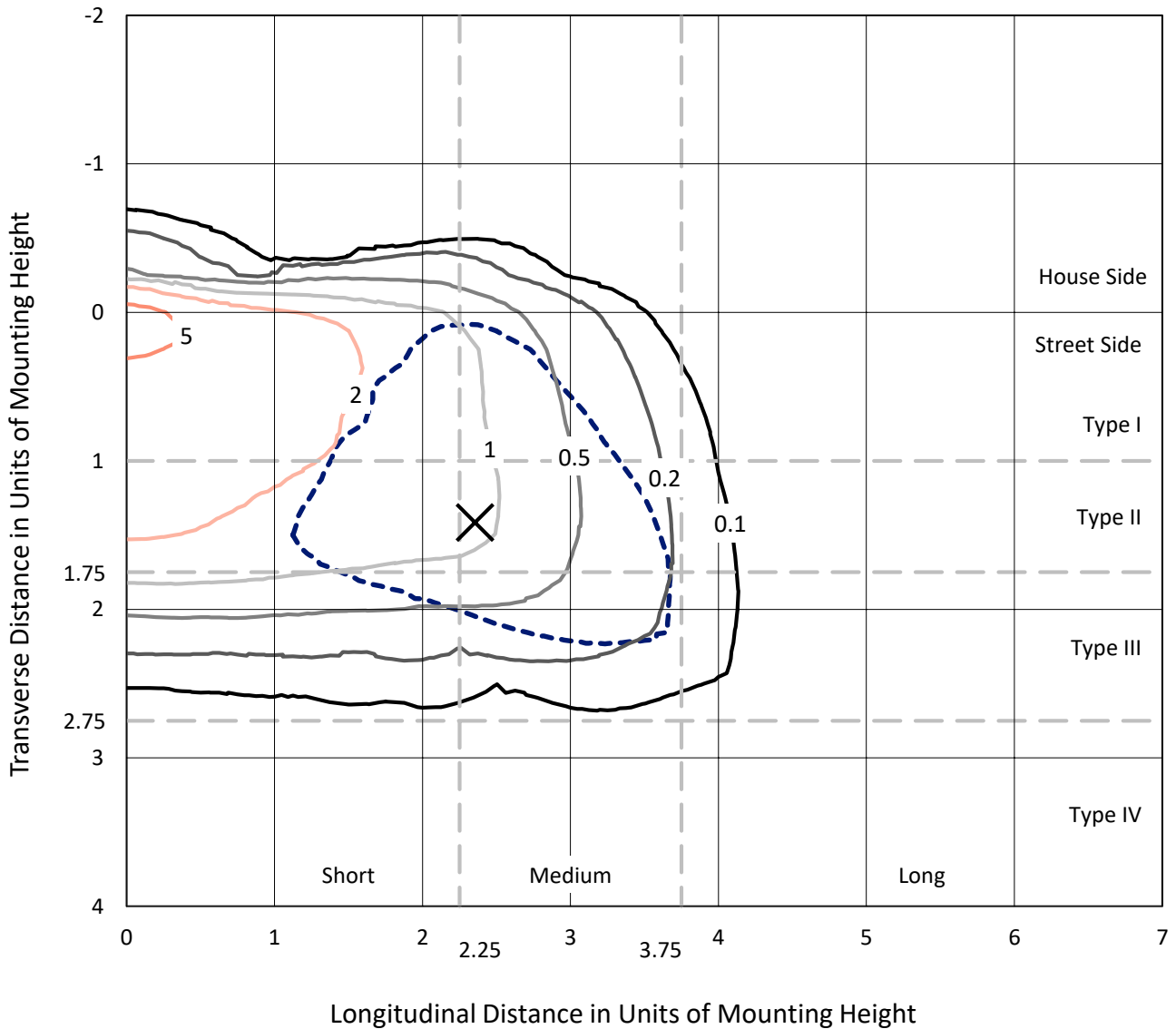
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

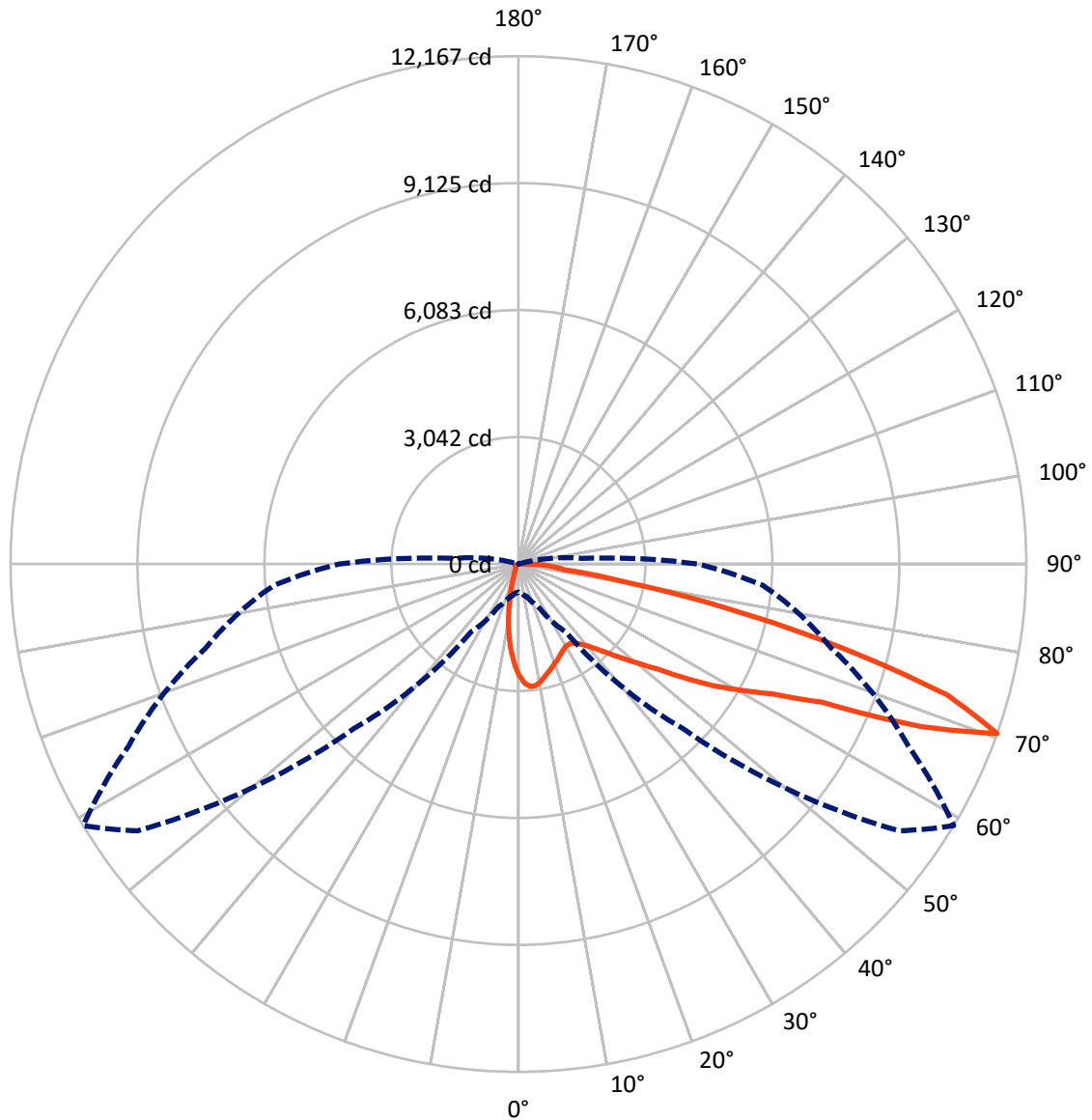
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.1 fc  
 Type III - Medium - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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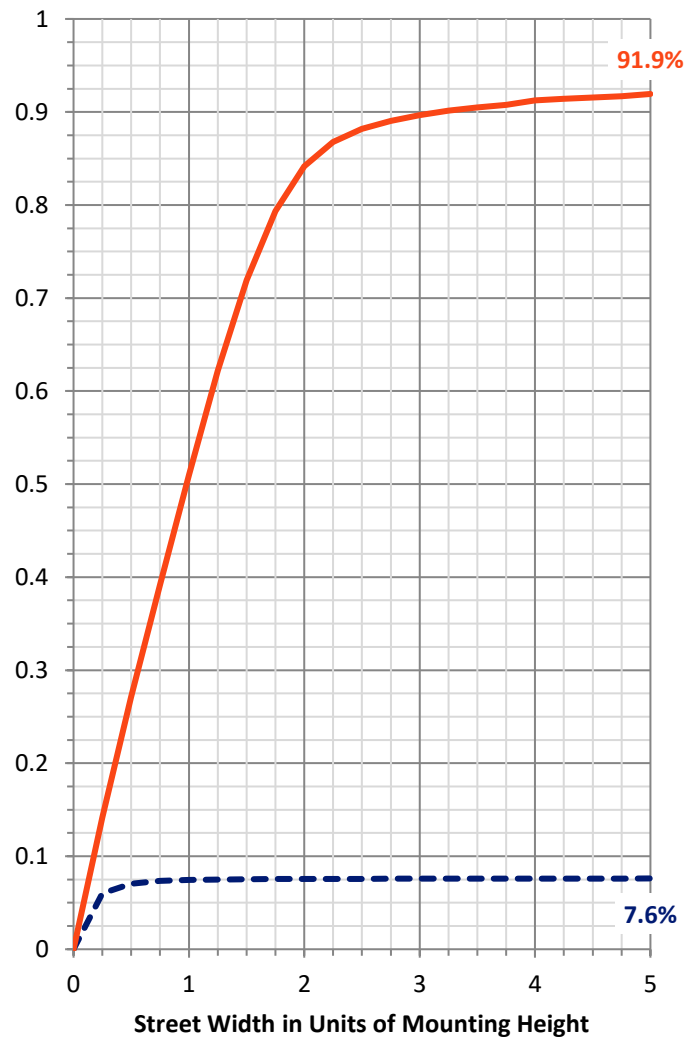
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	813.1	0.0	813.1
	% Fixture	7.7	0.0	7.7
<b>Street Side</b>	Lumens	9764.2	0.0	9764.2
	% Fixture	92.3	0.0	92.3
<b>Total</b>	Lumens	10577.3	0.0	10577.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	219.9	2.1
10°-20°	461.3	4.4
20°-30°	624.4	5.9
30°-40°	901.2	8.5
40°-50°	1496.6	14.1
50°-60°	2289.3	21.6
60°-70°	2847.3	26.9
70°-80°	1574.0	14.9
80°-90°	163.2	1.5
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°	10577.3	100.0
0°-180°	10577.3	100.0



--- HS    — SS

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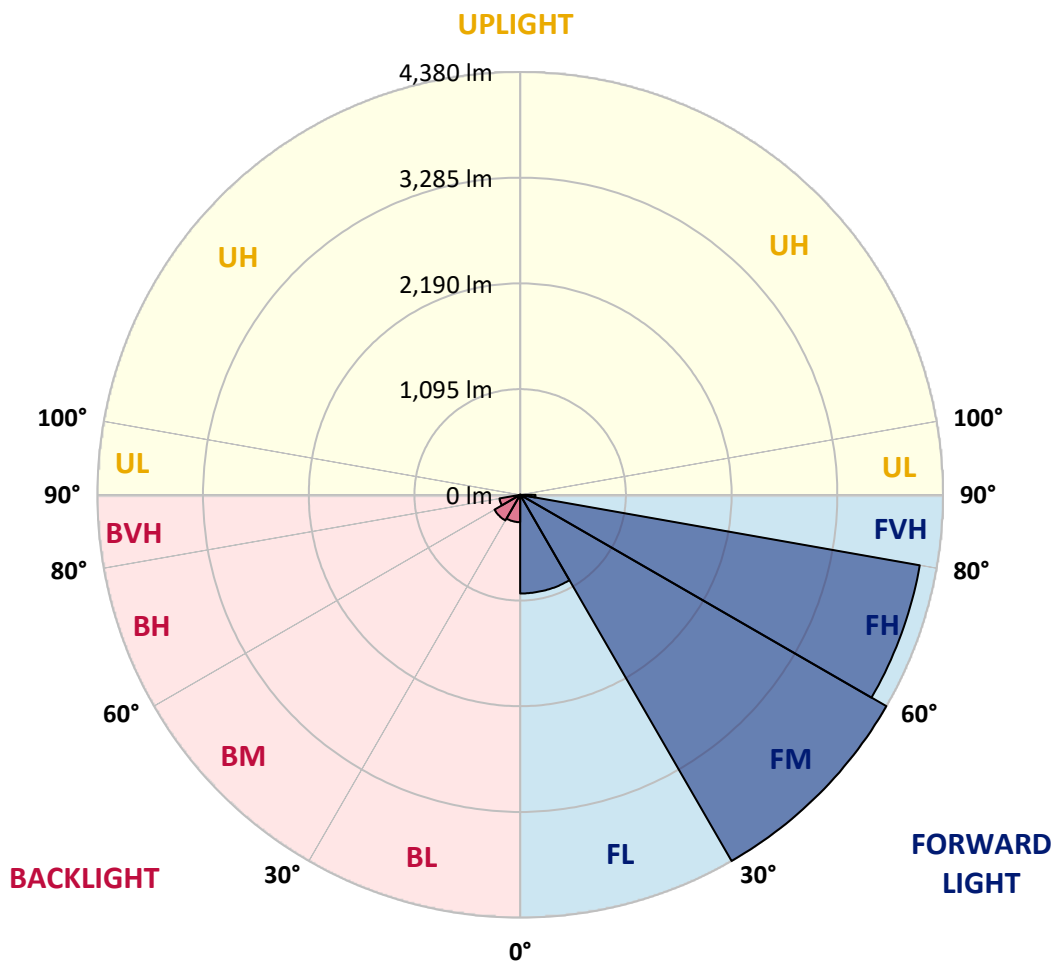
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1022.3	9.7			
FM	(30°-60°)	4380.2	41.4			
FH	(60°-80°)	4203.2	39.7			G2/5000
FVH	(80°-90°)	158.5	1.5			G2/225
BL	(0°-30°)	283.3	2.7	B1/500		
BM	(30°-60°)	306.9	2.9	B1/1000		
BH	(60°-80°)	218.1	2.1	B1/500		G1/500
BVH	(80°-90°)	4.7	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	2674.6	2674.6	2674.6	2674.6	2674.6	2674.6	2674.6	2674.6	2674.6	2674.6	2674.6
2.5°	3023.3	3018.5	2998.6	2994.6	2972.3	2927.6	2875.7	2855.0	2812.7	2745.6	2671.4
5°	3073.6	3076.0	3077.5	3068.8	3065.6	3028.9	2971.5	2946.7	2890.0	2780.0	2644.3
7.5°	2885.2	2891.7	2911.6	2920.4	2958.7	2973.0	2961.0	2945.1	2900.5	2770.4	2579.7
10°	2686.6	2698.5	2720.1	2734.4	2781.5	2819.9	2868.6	2872.5	2862.9	2738.4	2507.0
12.5°	2515.8	2527.0	2550.9	2579.7	2627.6	2677.1	2749.6	2775.2	2807.1	2717.7	2455.2
15°	2369.1	2372.2	2395.3	2431.2	2494.3	2562.1	2648.3	2685.8	2748.1	2709.7	2415.3
17.5°	2240.6	2241.4	2256.5	2289.3	2365.8	2455.2	2555.7	2605.3	2684.2	2698.5	2380.2
20°	2156.0	2155.2	2156.0	2173.6	2241.4	2347.5	2469.5	2521.5	2622.7	2685.0	2344.3
22.5°	2127.2	2123.2	2104.9	2098.5	2141.6	2234.9	2381.0	2448.8	2567.7	2681.1	2317.9
25°	2162.3	2160.0	2120.9	2084.2	2088.1	2146.4	2290.8	2373.8	2524.6	2695.4	2311.6
27.5°	2275.7	2270.8	2211.0	2139.2	2093.8	2104.1	2223.8	2310.7	2490.3	2730.5	2320.4
30°	2424.1	2424.9	2361.1	2274.0	2167.1	2108.1	2187.9	2270.0	2467.2	2783.1	2339.5
32.5°	2589.3	2588.5	2543.0	2442.4	2305.9	2181.5	2203.8	2273.3	2470.3	2860.6	2376.2
35°	2760.0	2751.2	2736.1	2647.5	2487.9	2309.9	2276.5	2327.5	2503.9	2962.7	2438.4
37.5°	2957.0	2953.9	2969.0	2875.7	2713.0	2499.1	2404.1	2438.4	2588.5	3113.5	2539.0
40°	3270.7	3253.1	3260.2	3133.4	2966.7	2753.6	2582.8	2591.6	2723.3	3312.9	2697.7
42.5°	3868.3	3797.3	3664.0	3426.3	3245.9	3036.1	2816.7	2801.5	2914.0	3554.8	2906.8
45°	4582.4	4501.1	4165.1	3749.4	3525.2	3339.3	3105.5	3064.8	3148.5	3842.8	3176.5
47.5°	5178.5	5090.7	4645.5	4086.9	3809.3	3652.0	3425.5	3377.6	3429.4	4177.1	3500.4
50°	5381.9	5333.3	4942.3	4367.8	4095.7	4003.1	3826.9	3747.1	3759.8	4537.8	3878.7
52.5°	5288.6	5271.9	5010.1	4560.1	4360.6	4390.9	4266.4	4182.6	4168.3	4932.0	4296.8
55°	5091.5	5083.6	4955.9	4667.0	4594.4	4746.0	4883.3	4810.6	4675.0	5350.9	4642.3
57.5°	4809.8	4840.2	4932.0	4872.9	4881.6	5121.0	5456.1	5493.7	5291.0	5684.3	4898.4
60°	4057.4	4138.8	4559.3	5093.9	5503.3	5745.0	6069.8	6140.0	5812.8	5912.6	5194.4
62.5°	2999.4	3115.9	3715.2	4697.4	5845.6	6931.5	6886.0	6854.9	6310.7	6218.2	5733.0
65°	1761.8	1898.3	2405.0	3670.4	5329.3	7694.3	8410.1	7979.2	7069.5	6853.4	6590.8
67.5°	877.7	878.5	1107.5	1937.4	3938.6	7162.1	10634.7	10385.7	8682.9	7789.3	6929.2
70°	675.0	693.4	819.5	1125.9	1991.6	5578.3	11144.5	12166.7	10304.3	7747.8	5879.1
72.5°	572.1	584.1	729.3	979.9	1488.9	3062.4	9647.7	10754.4	9832.7	6546.2	4333.5
75°	411.7	421.3	645.5	888.8	1370.9	1519.3	6618.0	7975.9	7377.5	4604.8	2385.0
77.5°	102.1	101.4	225.0	721.3	1226.4	1265.5	3797.3	5114.7	4233.0	1885.5	612.8
80°	45.5	43.9	51.0	151.6	1141.0	1194.5	1670.1	2582.8	1623.7	305.6	187.5
82.5°	31.9	30.3	31.9	55.9	381.4	1108.3	1009.3	1119.5	594.4	104.5	79.8
85°	10.3	9.6	17.6	47.1	106.9	639.1	984.6	836.3	442.0	44.7	53.5
87.5°	1.6	1.6	6.3	25.6	31.1	213.1	577.7	579.3	198.7	26.3	23.9
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2674.6	2674.6	2674.6	2674.6	2674.6	2674.6	2674.6	2674.6	2674.6	2674.6	2674.6
2.5°	2633.9	2586.8	2520.7	2454.4	2394.5	2333.1	2283.6	2260.5	2250.1	2235.8	2204.7
5°	2573.3	2487.9	2342.7	2199.9	2066.6	1938.9	1829.6	1767.4	1700.3	1697.2	1664.4
7.5°	2476.0	2354.6	2125.7	1903.8	1700.3	1505.7	1338.1	1229.6	1155.4	1109.1	1077.2
10°	2367.4	2211.8	1908.6	1596.6	1319.7	1059.7	844.2	703.8	618.4	575.3	550.6
12.5°	2281.3	2085.8	1694.8	1302.2	955.1	656.7	456.4	354.2	308.8	291.2	283.3
15°	2207.0	1970.1	1494.5	1038.9	637.5	377.4	264.1	230.6	223.4	223.4	222.6
17.5°	2132.0	1858.4	1299.8	780.4	401.3	247.3	208.3	203.5	204.3	206.6	206.6
20°	2061.0	1752.2	1112.3	556.2	263.3	197.8	189.1	187.5	189.9	193.1	192.3
22.5°	2003.6	1658.9	936.7	382.2	202.6	179.5	173.9	171.5	173.2	175.5	174.7
25°	1962.8	1579.1	775.6	266.5	176.4	163.6	157.2	154.0	152.4	154.0	153.2
27.5°	1938.2	1512.0	624.0	200.3	157.9	147.6	139.6	133.3	129.3	129.3	127.7
30°	1922.2	1449.0	489.1	165.9	142.8	131.7	120.5	111.7	105.4	103.7	102.9
32.5°	1921.4	1394.8	365.4	146.8	128.5	115.7	102.1	90.9	83.8	82.1	81.4
35°	1941.4	1350.9	268.9	132.5	115.7	100.6	85.4	73.4	67.0	67.0	66.2
37.5°	1993.2	1325.3	203.5	121.3	105.4	87.8	71.8	60.7	55.0	56.7	56.7
40°	2089.8	1320.5	165.9	112.5	96.6	76.6	58.2	49.5	47.1	49.5	49.5
42.5°	2237.4	1346.1	147.6	106.1	88.6	65.5	48.7	42.2	41.5	43.9	43.9
45°	2429.6	1396.3	137.3	100.6	79.8	54.2	40.7	36.7	35.9	39.1	39.1
47.5°	2662.6	1464.1	127.7	94.1	71.0	44.7	34.3	31.1	31.1	34.3	35.1
50°	2938.7	1555.9	118.0	87.8	63.8	37.5	28.7	26.3	27.1	30.3	31.1
52.5°	3256.3	1668.4	109.4	82.1	55.9	30.3	23.9	22.3	23.1	26.3	27.1
55°	3530.0	1766.6	98.9	76.6	45.5	24.8	19.9	19.1	19.9	23.9	23.9
57.5°	3768.6	1860.7	89.4	67.8	35.9	19.9	16.0	16.0	17.6	21.6	22.3
60°	4085.4	2009.2	81.4	57.5	27.1	15.1	12.8	13.6	16.0	19.1	19.9
62.5°	4646.2	2261.3	71.0	47.9	19.9	12.0	10.3	11.2	14.3	18.3	19.1
65°	5348.4	2499.9	59.0	39.9	15.1	8.8	8.0	10.3	14.3	18.3	19.1
67.5°	5276.6	2174.3	46.2	31.9	11.2	7.2	6.3	9.6	13.6	18.3	19.1
70°	4279.2	1524.0	34.3	21.6	8.8	6.3	6.3	9.6	13.6	17.6	18.3
72.5°	2968.3	848.2	26.3	14.3	8.0	6.3	5.6	8.8	12.8	17.6	18.3
75°	1412.3	260.1	20.8	10.3	7.2	5.6	4.8	8.8	12.8	17.6	18.3
77.5°	271.3	66.2	16.8	8.8	6.3	5.6	4.8	8.0	12.8	16.8	17.6
80°	91.8	29.6	13.6	8.0	6.3	5.6	4.8	8.0	12.0	16.0	16.8
82.5°	50.2	16.8	12.0	7.2	6.3	4.8	4.0	7.2	11.2	16.0	16.8
85°	39.1	12.0	9.6	7.2	6.3	4.8	4.0	7.2	11.2	15.1	16.0
87.5°	19.9	8.8	8.0	7.2	6.3	4.8	4.0	6.3	10.3	14.3	16.0
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)