

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: P197092

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197092
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-SL3-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13099 lumens
Efficiency: N/A
Efficacy: 101.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G3

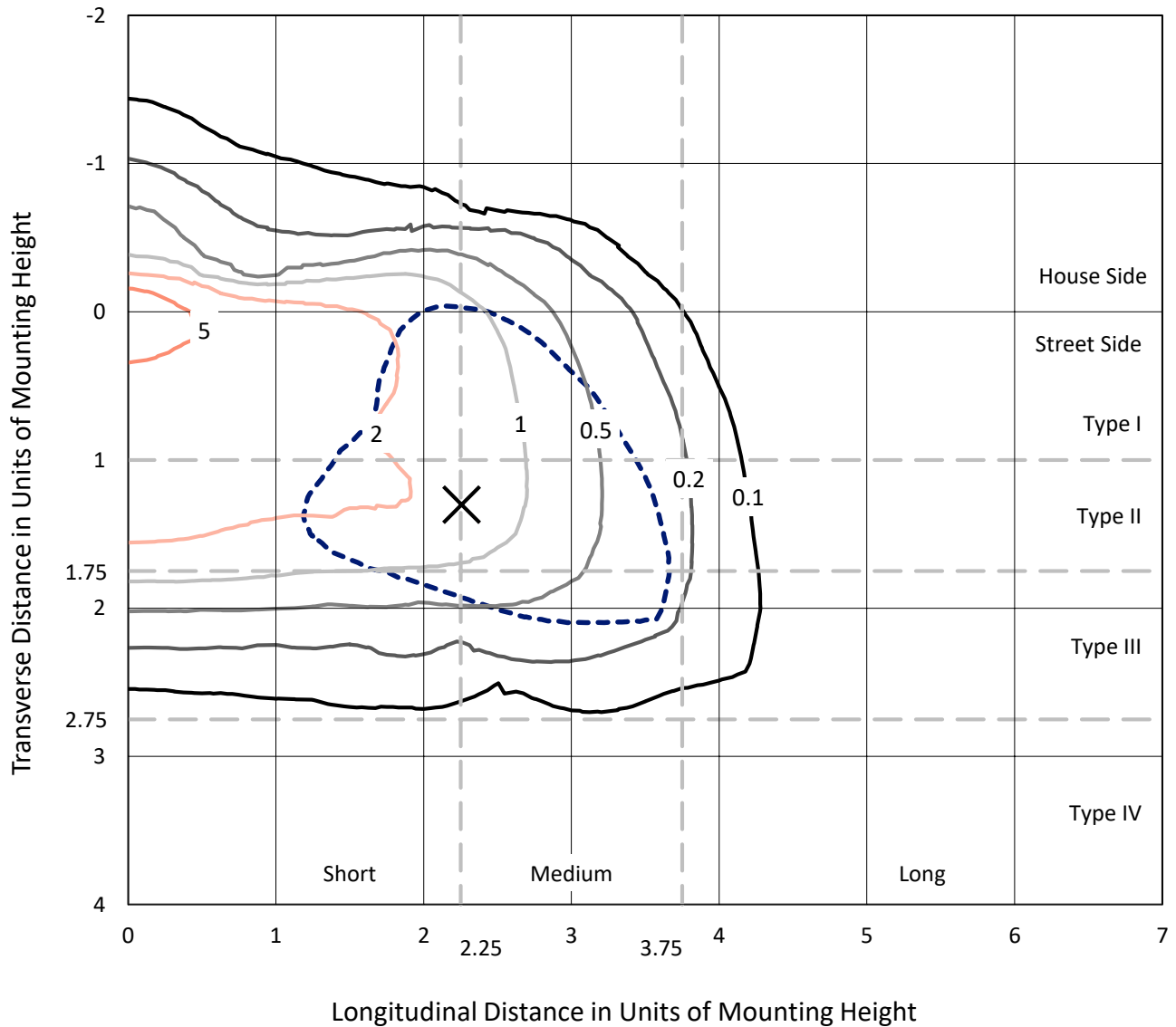
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

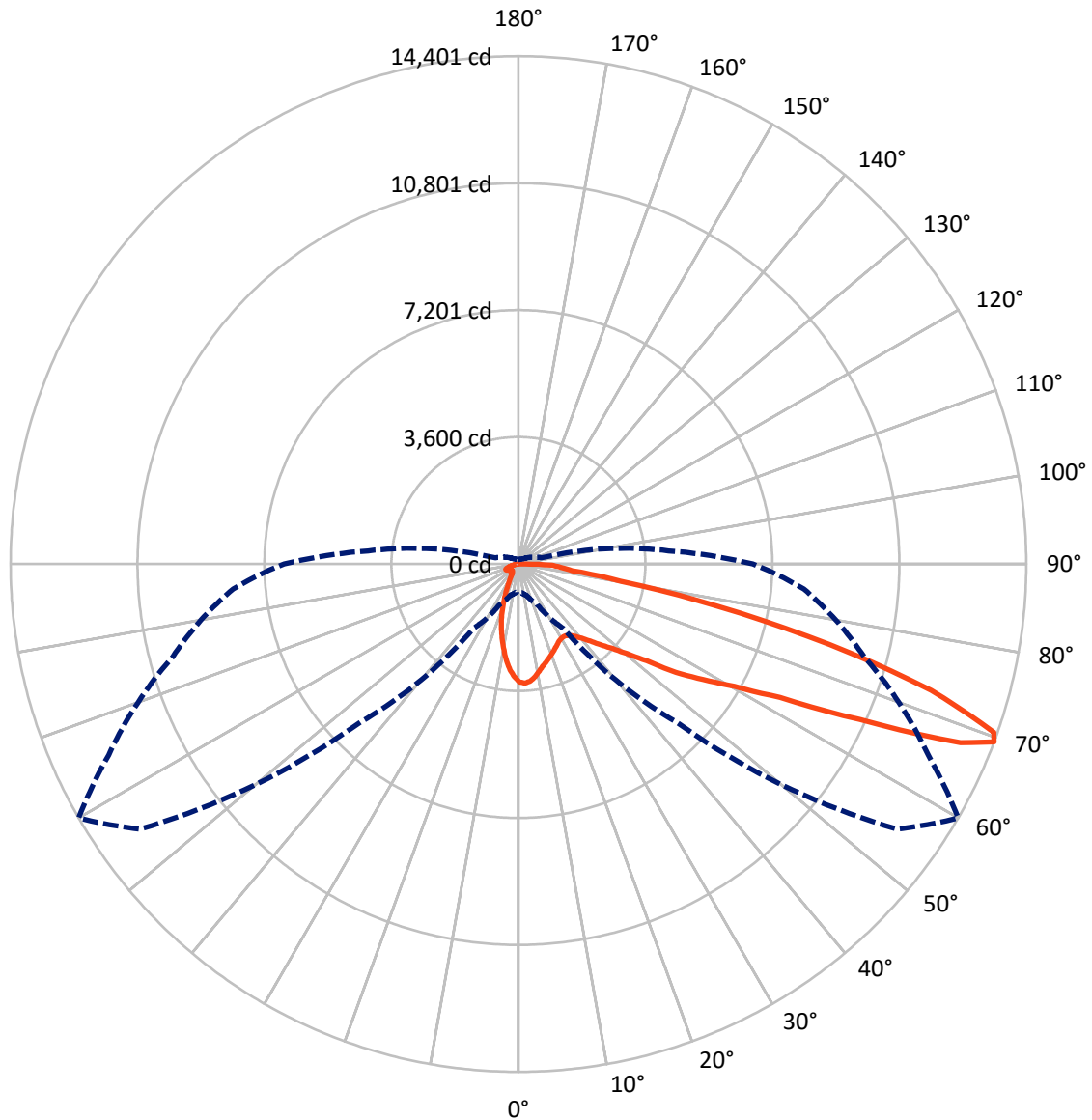
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.4 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1868.4	0.0	1868.4
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	11230.7	0.0	11230.7
	% Fixture	85.7	0.0	85.7
Total	Lumens	13099.0	0.0	13099.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	283.5	2.2
10°-20°	607.1	4.6
20°-30°	774.5	5.9
30°-40°	1065.7	8.1
40°-50°	1726.3	13.2
50°-60°	2709.3	20.7
60°-70°	3612.0	27.6
70°-80°	2009.1	15.3
80°-90°	311.6	2.4
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°	13099.0	100.0
0°-180°	13099.0	100.0

Coefficient of Utilization



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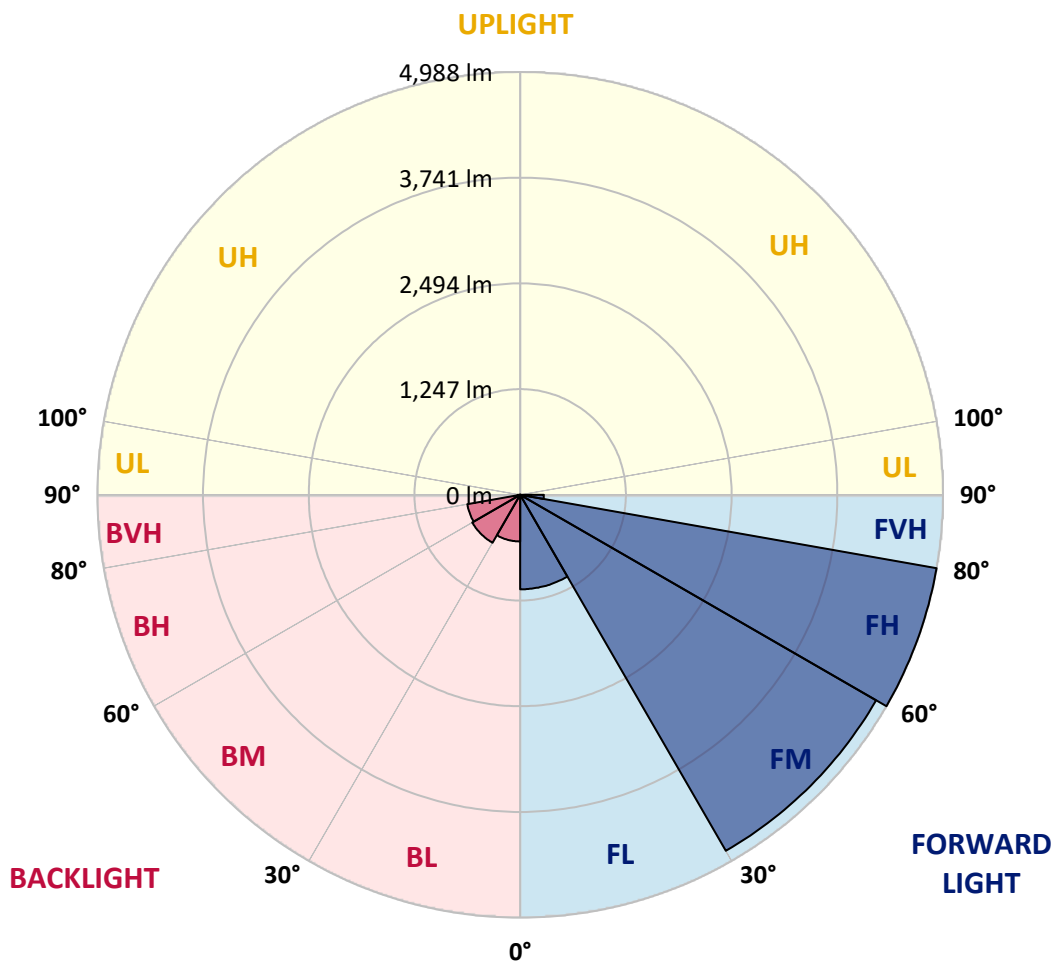
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1114.5	8.5			
FM	(30°-60°)	4848.6	37.0			
FH	(60°-80°)	4987.6	38.1			G2/5000
FVH	(80°-90°)	280.0	2.1			G3/500
BL	(0°-30°)	550.6	4.2	B2/1000		
BM	(30°-60°)	652.7	5.0	B1/1000		
BH	(60°-80°)	633.5	4.8	B2/1000		G2/1000
BVH	(80°-90°)	31.6	0.2			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 III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	3342.3	3342.3	3342.3	3342.3	3342.3	3342.3	3342.3	3342.3	3342.3	3342.3	3342.3
2.5°	3431.3	3440.5	3440.5	3433.0	3428.8	3404.4	3390.1	3380.1	3362.4	3329.7	3300.3
5°	3308.7	3326.3	3333.9	3337.2	3359.1	3351.5	3352.3	3345.6	3330.5	3295.2	3247.3
7.5°	3083.5	3086.9	3100.3	3123.0	3175.9	3212.9	3243.1	3249.0	3245.7	3219.6	3152.4
10°	2861.8	2867.7	2883.6	2922.3	2972.7	3025.6	3091.1	3118.0	3138.1	3129.7	3044.9
12.5°	2677.8	2678.7	2696.3	2740.8	2797.1	2863.5	2952.5	2994.5	3042.4	3061.7	2966.8
15°	2500.6	2512.4	2529.2	2582.9	2652.6	2736.6	2839.1	2897.1	2960.1	3015.5	2906.3
17.5°	2366.2	2375.4	2385.5	2430.0	2510.7	2615.7	2742.5	2804.7	2887.8	2972.7	2844.1
20°	2292.3	2295.6	2288.1	2309.9	2378.0	2491.4	2638.4	2713.1	2812.2	2931.5	2780.3
22.5°	2277.2	2277.2	2249.4	2245.2	2275.5	2371.2	2530.8	2622.4	2743.4	2902.9	2723.2
25°	2347.7	2342.7	2290.6	2242.7	2231.8	2280.5	2428.4	2540.9	2684.6	2902.1	2680.4
27.5°	2481.3	2474.6	2409.9	2329.2	2259.5	2238.5	2349.4	2464.5	2638.4	2930.7	2658.5
30°	2647.6	2645.1	2579.6	2478.8	2363.7	2255.3	2318.3	2425.0	2607.3	2983.6	2657.7
32.5°	2829.9	2818.1	2777.8	2677.0	2527.5	2348.6	2336.8	2426.7	2598.9	3060.9	2677.0
35°	3023.9	3015.5	3005.4	2903.8	2735.8	2513.2	2418.3	2484.6	2640.0	3168.4	2731.6
37.5°	3270.9	3261.6	3278.4	3167.5	2983.6	2729.1	2556.0	2600.6	2724.0	3324.6	2833.2
40°	3710.2	3683.3	3636.2	3465.7	3272.5	2993.7	2755.1	2761.8	2867.7	3533.8	2996.2
42.5°	4431.7	4345.2	4112.5	3799.2	3577.4	3301.1	3014.7	2982.7	3065.9	3810.1	3233.1
45°	5154.9	5057.5	4664.4	4162.9	3893.3	3631.2	3335.5	3259.1	3312.9	4131.8	3538.0
47.5°	5621.9	5574.1	5130.6	4526.6	4224.2	3990.7	3702.6	3576.6	3615.2	4496.4	3914.3
50°	5758.9	5717.7	5369.1	4811.4	4536.7	4425.0	4157.0	3989.9	3996.6	4922.2	4365.3
52.5°	5656.4	5639.6	5408.6	4987.8	4824.0	4882.8	4786.2	4553.5	4498.1	5389.3	4854.2
55°	5519.5	5525.3	5436.3	5165.0	5116.3	5309.5	5609.3	5422.0	5186.8	5875.6	5363.2
57.5°	5088.6	5092.8	5326.3	5502.7	5674.0	5907.5	6250.2	6171.3	5897.4	6400.6	5933.6
60°	4097.4	4130.1	4650.1	5432.9	6311.6	7086.0	7170.0	7033.9	6653.4	7005.4	6675.3
62.5°	2927.3	2956.7	3559.0	4716.4	6236.8	8419.9	8868.4	8327.5	7679.0	7910.0	7718.5
65°	1538.0	1533.0	1999.1	3259.1	5253.2	8729.0	11544.6	10624.0	9406.9	9154.0	8726.5
67.5°	859.3	887.0	1067.6	1643.8	3423.7	7682.4	13253.9	13525.2	11809.2	10141.0	8682.8
69°	794.6	803.9	924.8	1270.9	2231.8	6338.4	13106.9	14401.3	12822.2	10145.2	8123.4
70°	771.9	782.0	892.1	1170.9	1874.8	5193.6	12571.9	14298.9	13068.3	9920.1	7614.4
72.5°	692.1	705.6	812.3	1052.5	1580.0	2677.0	10126.7	12238.4	11837.7	8670.2	5904.2
75°	590.5	613.2	774.5	1044.9	1496.8	1701.8	6753.4	9117.9	8810.5	6200.7	3349.8
77.5°	244.4	247.0	338.5	765.2	1570.7	1628.7	3629.5	5775.7	5112.9	2719.0	1008.8
80°	170.5	167.2	168.8	223.4	1267.5	1639.6	1862.2	2937.4	2283.0	717.3	472.1
82.5°	143.6	142.0	148.7	140.3	429.2	1860.5	1557.3	1531.3	1075.2	386.4	225.1
85°	94.9	92.4	121.8	127.7	204.1	1477.5	1674.9	1203.7	801.3	206.6	95.8
87.5°	46.2	47.0	69.7	86.5	108.4	467.9	1604.3	951.7	619.1	89.9	38.6
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°	3342.3	3342.3	3342.3	3342.3	3342.3	3342.3	3342.3	3342.3	3342.3	3342.3	3342.3
2.5°	3288.5	3263.3	3240.6	3212.1	3190.2	3171.7	3146.5	3145.7	3141.5	3147.4	3149.1
5°	3215.4	3173.4	3109.6	3038.2	2987.8	2921.4	2856.7	2834.9	2810.5	2808.0	2815.6
7.5°	3105.4	3039.9	2930.7	2821.5	2712.3	2600.6	2494.7	2441.0	2388.9	2372.9	2380.5
10°	2982.7	2899.6	2732.4	2554.4	2400.6	2234.3	2073.1	1968.9	1874.0	1833.7	1843.7
12.5°	2887.0	2781.1	2546.0	2315.0	2084.8	1846.3	1633.7	1428.0	1272.6	1202.8	1207.0
15°	2804.7	2669.4	2371.2	2063.8	1775.7	1449.0	1154.1	915.6	779.5	729.1	727.4
17.5°	2715.6	2551.8	2189.0	1830.3	1456.5	1052.5	772.8	631.7	577.9	561.1	561.1
20°	2620.7	2430.9	1998.3	1575.8	1120.5	735.0	581.3	526.7	506.5	501.5	500.6
22.5°	2532.5	2312.4	1806.8	1304.5	810.6	557.7	494.7	473.7	470.4	474.6	474.6
25°	2462.8	2208.3	1612.7	1018.9	589.7	467.0	440.1	437.6	450.2	465.3	467.9
27.5°	2410.7	2115.1	1421.2	744.2	463.7	406.5	397.3	408.2	437.6	467.9	473.7
30°	2374.6	2035.3	1191.9	535.1	386.4	356.1	360.3	379.7	424.2	470.4	483.0
32.5°	2358.6	1970.6	960.9	410.7	330.1	313.3	324.2	349.4	395.6	441.8	456.9
35°	2373.8	1923.5	747.6	341.0	289.0	276.4	289.0	315.0	345.2	367.9	377.1
37.5°	2428.4	1906.7	562.8	302.4	262.1	249.5	259.6	277.2	290.6	299.0	303.2
40°	2543.4	1924.4	441.0	282.2	247.0	232.7	235.2	243.6	252.8	259.6	260.4
42.5°	2726.6	1982.3	392.3	274.7	237.7	219.2	215.0	220.9	231.0	240.2	241.9
45°	2970.1	2078.9	387.2	277.2	233.5	208.3	199.9	205.8	219.2	234.4	236.9
47.5°	3285.1	2231.8	410.7	290.6	236.0	202.4	189.8	195.7	213.4	233.5	236.9
50°	3658.1	2443.5	454.4	310.8	247.8	202.4	185.6	190.7	209.2	231.8	235.2
52.5°	4097.4	2738.3	499.8	330.9	264.6	210.0	187.3	186.5	203.3	224.3	228.5
55°	4582.1	3104.5	543.5	348.6	273.8	220.1	191.5	181.4	194.9	211.7	215.0
57.5°	5152.4	3606.0	619.9	365.4	278.9	227.6	196.6	176.4	184.0	195.7	198.2
60°	5926.0	4342.7	768.6	393.9	288.1	231.0	197.4	171.4	170.5	178.9	179.8
62.5°	6934.8	5205.3	910.5	427.5	306.6	231.8	194.0	168.0	159.6	162.1	162.1
65°	7652.2	5522.8	869.4	456.1	323.4	231.0	190.7	165.5	151.2	147.0	147.0
67.5°	7243.9	4878.6	738.3	463.7	325.1	221.8	183.1	159.6	143.6	133.6	133.6
69°	6644.2	4276.3	677.9	450.2	311.6	210.8	174.7	153.7	138.6	126.8	126.8
70°	6155.3	3820.2	640.9	434.3	295.7	201.6	167.2	147.8	133.6	123.5	122.6
72.5°	4595.5	2549.3	547.7	374.6	242.8	170.5	146.2	131.9	120.1	113.4	113.4
75°	2425.0	1277.6	448.5	305.8	187.3	136.1	120.1	110.9	104.2	103.3	102.5
77.5°	794.6	577.9	322.5	230.2	137.8	105.8	95.8	89.9	89.0	92.4	92.4
80°	429.2	345.2	207.5	155.4	95.8	79.0	73.9	73.1	75.6	80.6	80.6
82.5°	208.3	170.5	123.5	95.8	65.5	58.0	58.0	58.8	62.2	68.0	68.0
85°	89.9	80.6	71.4	53.8	40.3	36.1	41.2	45.4	47.9	52.1	53.8
87.5°	42.8	37.8	32.8	21.0	17.6	18.5	21.8	26.9	31.9	35.3	36.1
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)