

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: P196131

Luminaire Tested: **NAV-AF-03-D-UNV-SL3-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196131  
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-03-D-UNV-SL3-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 4000K, 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: 12192.6 lumens  
Efficiency: N/A  
Efficacy: 127.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B2 - U0 - G3

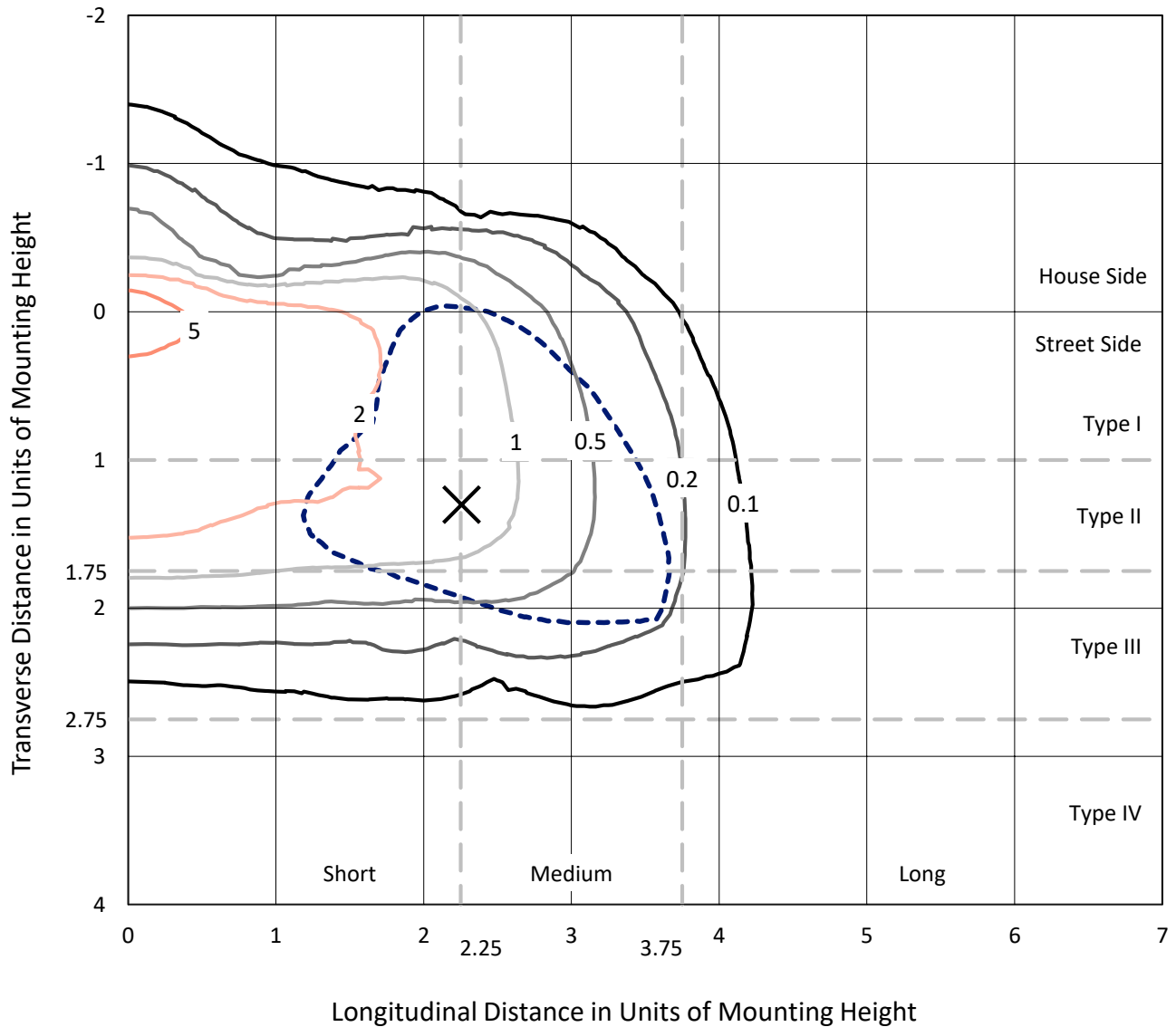
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P196131  
CATALOG NUMBER: NAV-AF-03-D-UNV-SL3-600

### Iso-Footcandle Lines of Horizontal Illumination

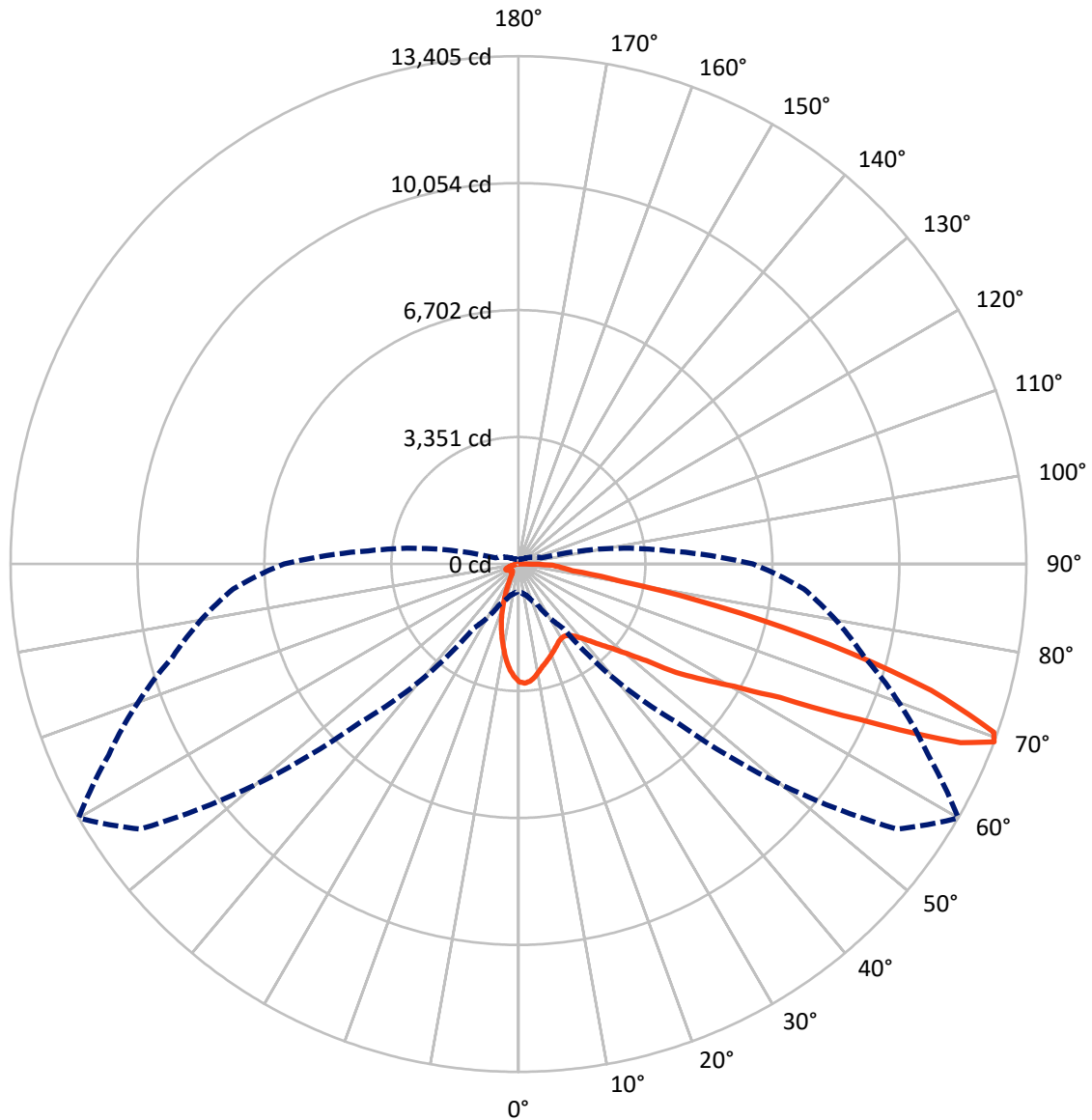
× Max cd  
- - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.8 fc  
Type III - Medium - Non-Cutoff

REPORT NUMBER: P196131  
CATALOG NUMBER: NAV-AF-03-D-UNV-SL3-600

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P196131

CATALOG NUMBER: NAV-AF-03-D-UNV-SL3-600

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1739.1	0.0	1739.1
	% Fixture	14.3	0.0	14.3
<b>Street Side</b>	Lumens	10453.5	0.0	10453.5
	% Fixture	85.7	0.0	85.7
<b>Total</b>	Lumens	12192.6	0.0	12192.6
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	263.9	2.2
10°-20°	565.1	4.6
20°-30°	720.9	5.9
30°-40°	992.0	8.1
40°-50°	1606.8	13.2
50°-60°	2521.8	20.7
60°-70°	3362.0	27.6
70°-80°	1870.1	15.3
80°-90°	290.0	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°	12192.6	100.0
0°-180°	12192.6	100.0



REPORT NUMBER: P196131

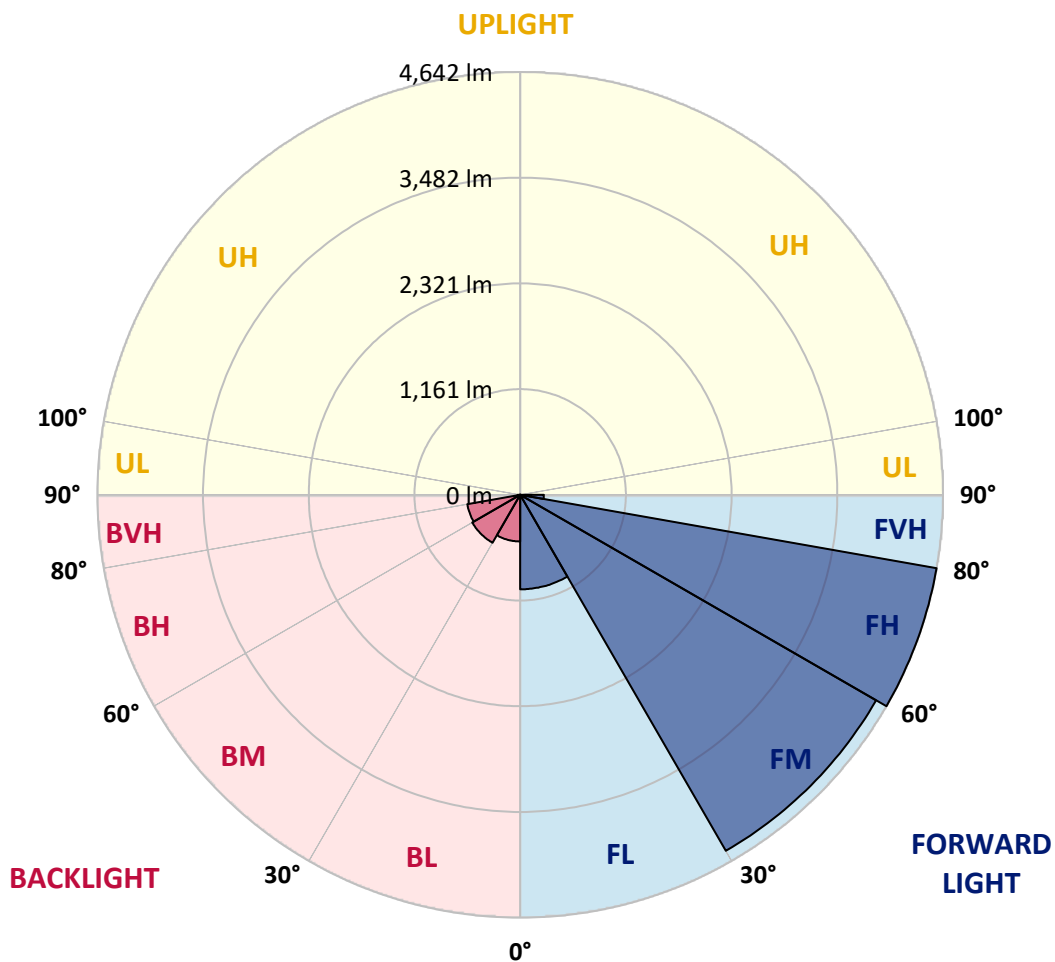
CATALOG NUMBER: NAV-AF-03-D-UNV-SL3-600

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1037.3	8.5			
FM (30°-60°)	4513.0	37.0			
FH (60°-80°)	4642.5	38.1			G2/5000
FVH (80°-90°)	260.6	2.1			G3/500
BL (0°-30°)	512.5	4.2	B2/1000		
BM (30°-60°)	607.5	5.0	B1/1000		
BH (60°-80°)	589.6	4.8	B2/1000		G2/1000
BVH (80°-90°)	29.4	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





REPORT NUMBER: P196131

CATALOG NUMBER: NAV-AF-03-D-UNV-SL3-600

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	3111.0	3111.0	3111.0	3111.0	3111.0	3111.0	3111.0	3111.0	3111.0	3111.0	3111.0
2.5°	3193.9	3202.4	3202.4	3195.4	3191.5	3168.8	3155.5	3146.2	3129.7	3099.2	3071.9
5°	3079.7	3096.1	3103.1	3106.3	3126.6	3119.6	3120.3	3114.1	3100.1	3067.2	3022.6
7.5°	2870.2	2873.3	2885.8	2906.9	2956.1	2990.6	3018.7	3024.1	3021.1	2996.8	2934.2
10°	2663.8	2669.2	2684.1	2720.0	2767.0	2816.2	2877.2	2902.2	2920.9	2913.2	2834.2
12.5°	2492.5	2493.3	2509.7	2551.1	2603.5	2665.3	2748.2	2787.2	2831.8	2849.8	2761.5
15°	2327.5	2338.5	2354.1	2404.1	2469.1	2547.2	2642.7	2696.6	2755.2	2806.9	2705.2
17.5°	2202.4	2211.1	2220.4	2261.8	2336.9	2434.6	2552.8	2610.6	2688.0	2767.0	2647.3
20°	2133.7	2136.7	2129.8	2150.0	2213.4	2318.9	2455.8	2525.4	2617.6	2728.6	2588.0
22.5°	2119.6	2119.6	2093.8	2089.9	2118.0	2207.1	2355.8	2441.0	2553.5	2702.0	2534.8
25°	2185.2	2180.5	2132.1	2087.5	2077.4	2122.7	2260.3	2365.1	2498.8	2701.3	2494.9
27.5°	2309.6	2303.3	2243.1	2168.0	2103.2	2083.6	2186.9	2294.0	2455.8	2727.9	2474.5
30°	2464.4	2462.0	2401.1	2307.3	2200.2	2099.3	2157.9	2257.1	2426.8	2777.1	2473.8
32.5°	2634.0	2623.1	2585.6	2491.7	2352.6	2186.0	2175.1	2258.8	2419.1	2849.0	2491.7
35°	2814.6	2806.9	2797.5	2702.8	2546.4	2339.3	2250.9	2312.7	2457.3	2949.2	2542.5
37.5°	3044.5	3035.9	3051.6	2948.3	2777.1	2540.2	2379.2	2420.6	2535.5	3094.5	2637.2
40°	3453.4	3428.4	3384.6	3225.9	3046.0	2786.5	2564.4	2570.7	2669.2	3289.2	2788.9
42.5°	4125.0	4044.5	3827.9	3536.3	3329.9	3072.6	2806.1	2776.3	2853.7	3546.5	3009.3
45°	4798.2	4707.5	4341.6	3874.8	3623.9	3379.9	3104.8	3033.6	3083.6	3845.9	3293.2
47.5°	5232.9	5188.3	4775.5	4213.3	3931.9	3714.5	3446.4	3329.1	3365.1	4185.2	3643.4
50°	5360.4	5322.0	4997.5	4478.4	4222.7	4118.8	3869.3	3713.7	3720.1	4581.6	4063.3
52.5°	5264.9	5249.3	5034.4	4642.6	4490.1	4544.9	4455.0	4238.4	4186.8	5016.3	4518.3
55°	5137.5	5143.0	5060.1	4807.6	4762.2	4942.1	5221.1	5046.8	4827.9	5469.0	4992.1
57.5°	4736.5	4740.4	4957.7	5121.9	5281.4	5498.8	5817.7	5744.3	5489.4	5957.7	5523.0
60°	3813.9	3844.4	4328.3	5057.0	5874.8	6595.7	6673.8	6547.2	6193.0	6520.6	6213.3
62.5°	2724.7	2752.1	3312.7	4390.1	5805.2	7837.2	8254.7	7751.2	7147.7	7362.7	7184.4
65°	1431.5	1426.9	1860.7	3033.6	4889.7	8125.0	10745.7	9888.8	8755.9	8520.6	8122.6
67.5°	799.8	825.6	993.7	1530.0	3186.8	7150.7	12336.8	12589.3	10992.0	9439.3	8081.9
69°	739.6	748.2	860.8	1182.9	2077.4	5899.8	12199.9	13404.7	11934.9	9443.2	7561.2
70°	718.5	727.9	830.3	1089.9	1745.1	4834.2	11701.9	13309.4	12164.0	9233.6	7087.4
72.5°	644.3	656.7	756.1	979.7	1470.7	2491.7	9426.0	11391.5	11018.6	8070.3	5495.6
75°	549.6	570.7	720.9	972.6	1393.3	1584.0	6286.0	8486.9	8200.8	5771.6	3118.0
77.5°	227.5	229.9	315.1	712.3	1462.1	1516.0	3378.4	5376.0	4759.1	2530.9	939.0
80°	158.8	155.6	157.1	208.0	1179.8	1526.1	1733.4	2734.1	2125.1	667.7	439.4
82.5°	133.7	132.2	138.4	130.5	399.6	1731.8	1449.5	1425.3	1000.8	359.7	209.5
85°	88.4	86.0	113.3	118.9	190.0	1375.3	1559.0	1120.3	745.8	192.3	89.1
87.5°	43.0	43.8	64.9	80.5	100.9	435.5	1493.3	885.9	576.2	83.7	36.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196131

CATALOG NUMBER: NAV-AF-03-D-UNV-SL3-600

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3111.0	3111.0	3111.0	3111.0	3111.0	3111.0	3111.0	3111.0	3111.0	3111.0	3111.0
2.5°	3061.0	3037.4	3016.4	2989.8	2969.4	2952.2	2928.8	2928.0	2924.1	2929.6	2931.2
5°	2992.9	2953.8	2894.4	2827.9	2781.0	2719.3	2659.1	2638.7	2616.1	2613.7	2620.8
7.5°	2890.4	2829.5	2727.9	2626.2	2524.5	2420.6	2322.1	2272.1	2223.6	2208.8	2215.7
10°	2776.3	2699.0	2543.4	2377.6	2234.5	2079.8	1929.6	1832.6	1744.3	1706.8	1716.2
12.5°	2687.2	2588.7	2369.8	2154.7	1940.5	1718.5	1520.7	1329.1	1184.5	1119.6	1123.5
15°	2610.6	2484.7	2207.1	1921.0	1652.8	1348.7	1074.3	852.2	725.6	678.6	677.1
17.5°	2527.7	2375.3	2037.5	1703.6	1355.7	979.7	719.3	588.0	537.9	522.3	522.3
20°	2439.3	2262.7	1860.0	1466.7	1043.0	684.1	541.0	490.2	471.5	466.8	466.0
22.5°	2357.3	2152.4	1681.7	1214.2	754.5	519.1	460.5	441.0	437.8	441.7	441.7
25°	2292.3	2055.5	1501.2	948.4	548.8	434.8	409.7	407.3	419.1	433.1	435.5
27.5°	2243.9	1968.7	1322.9	692.7	431.6	378.4	369.8	380.0	407.3	435.5	441.0
30°	2210.3	1894.4	1109.4	498.1	359.7	331.5	335.4	353.4	394.9	437.8	449.6
32.5°	2195.5	1834.3	894.5	382.3	307.3	291.6	301.8	325.3	368.3	411.2	425.3
35°	2209.5	1790.5	695.8	317.4	268.9	257.3	268.9	293.2	321.3	342.5	351.1
37.5°	2260.3	1774.8	523.9	281.4	244.0	232.2	241.6	258.0	270.5	278.3	282.2
40°	2367.4	1791.2	410.5	262.7	229.9	216.6	218.9	226.7	235.4	241.6	242.3
42.5°	2537.8	1845.2	365.1	255.6	221.3	204.1	200.2	205.6	215.0	223.6	225.2
45°	2764.6	1935.1	360.4	258.0	217.4	193.8	186.1	191.6	204.1	218.1	220.4
47.5°	3057.8	2077.4	382.3	270.5	219.7	188.4	176.7	182.2	198.6	217.4	220.4
50°	3404.9	2274.4	423.0	289.3	230.7	188.4	172.8	177.5	194.7	215.7	218.9
52.5°	3813.9	2548.8	465.2	308.0	246.3	195.5	174.3	173.6	189.2	208.8	212.7
55°	4265.0	2889.7	505.8	324.5	254.9	204.8	178.3	168.9	181.4	197.0	200.2
57.5°	4795.8	3356.5	577.0	340.1	259.5	211.9	182.9	164.2	171.2	182.2	184.5
60°	5516.0	4042.2	715.3	366.7	268.2	215.0	183.7	159.5	158.8	166.5	167.4
62.5°	6454.9	4845.1	847.5	397.9	285.4	215.7	180.7	156.4	148.5	150.9	150.9
65°	7122.6	5140.6	809.3	424.5	301.1	215.0	177.5	154.1	140.8	136.9	136.9
67.5°	6742.7	4541.0	687.2	431.6	302.6	206.4	170.4	148.5	133.7	124.3	124.3
69°	6184.5	3980.4	631.0	419.1	290.1	196.2	162.6	143.1	129.0	118.0	118.0
70°	5729.3	3555.9	596.6	404.2	275.2	187.6	155.6	137.6	124.3	115.0	114.2
72.5°	4277.5	2372.9	509.7	348.7	226.0	158.8	136.1	122.8	111.8	105.6	105.6
75°	2257.1	1189.2	417.5	284.6	174.3	126.6	111.8	103.2	97.0	96.2	95.3
77.5°	739.6	537.9	300.2	214.2	128.2	98.5	89.1	83.7	82.9	86.0	86.0
80°	399.6	321.3	193.1	144.6	89.1	73.4	68.8	68.0	70.4	75.1	75.1
82.5°	193.8	158.8	115.0	89.1	61.0	53.9	53.9	54.7	57.9	63.3	63.3
85°	83.7	75.1	66.5	50.0	37.5	33.7	38.4	42.2	44.6	48.5	50.0
87.5°	39.9	35.2	30.5	19.5	16.5	17.2	20.4	25.1	29.7	32.8	33.7
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)