

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: P195844

Luminaire Tested: **NAV-AF-04-D-UNV-T3R-7050-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195844  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)  
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-T3R-7050-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
ROADWAY OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16350 lumens  
Efficiency: N/A  
Efficacy: 126.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Medium - Full 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

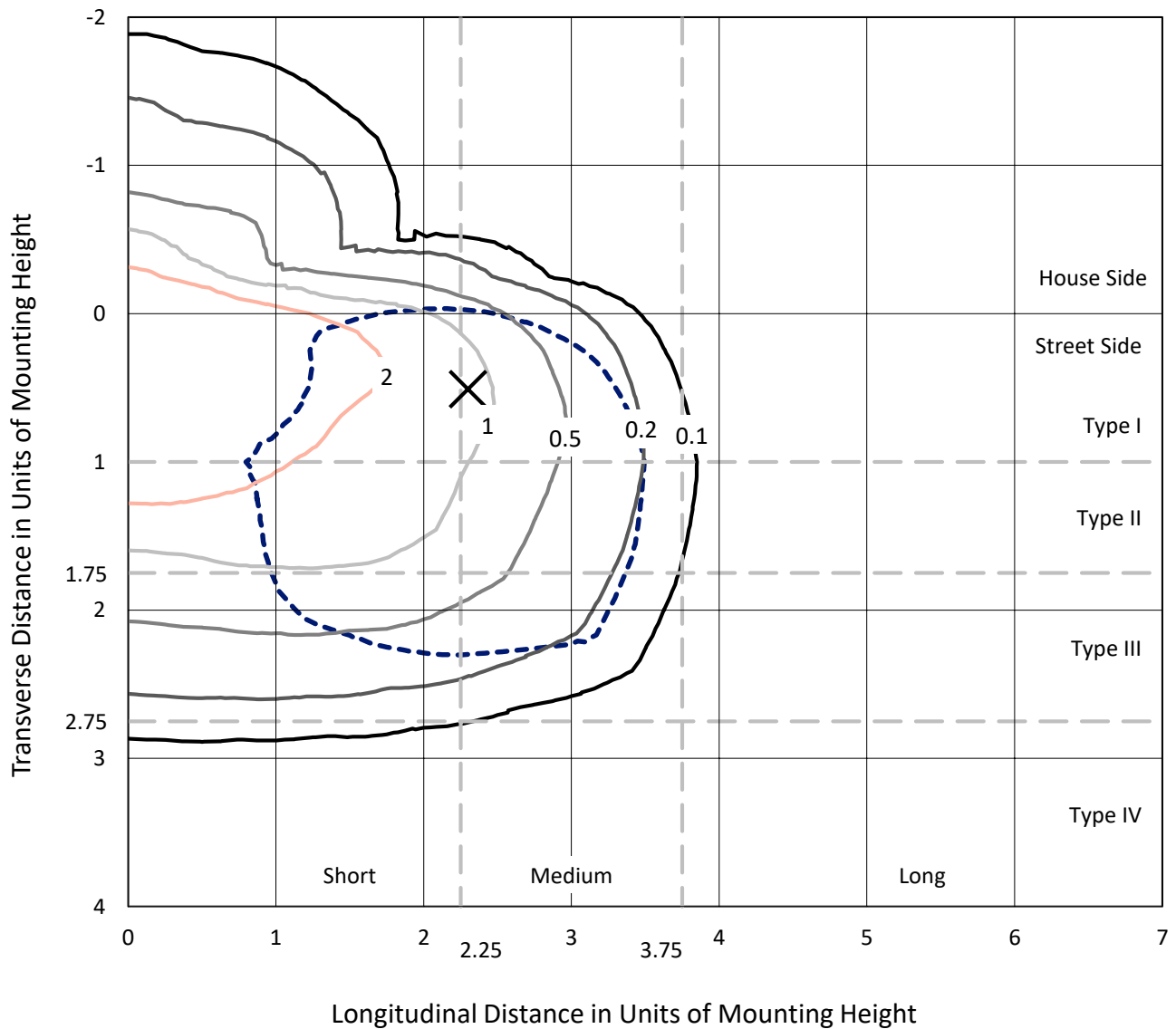


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### Iso-Footcandle Lines of Horizontal Illumination

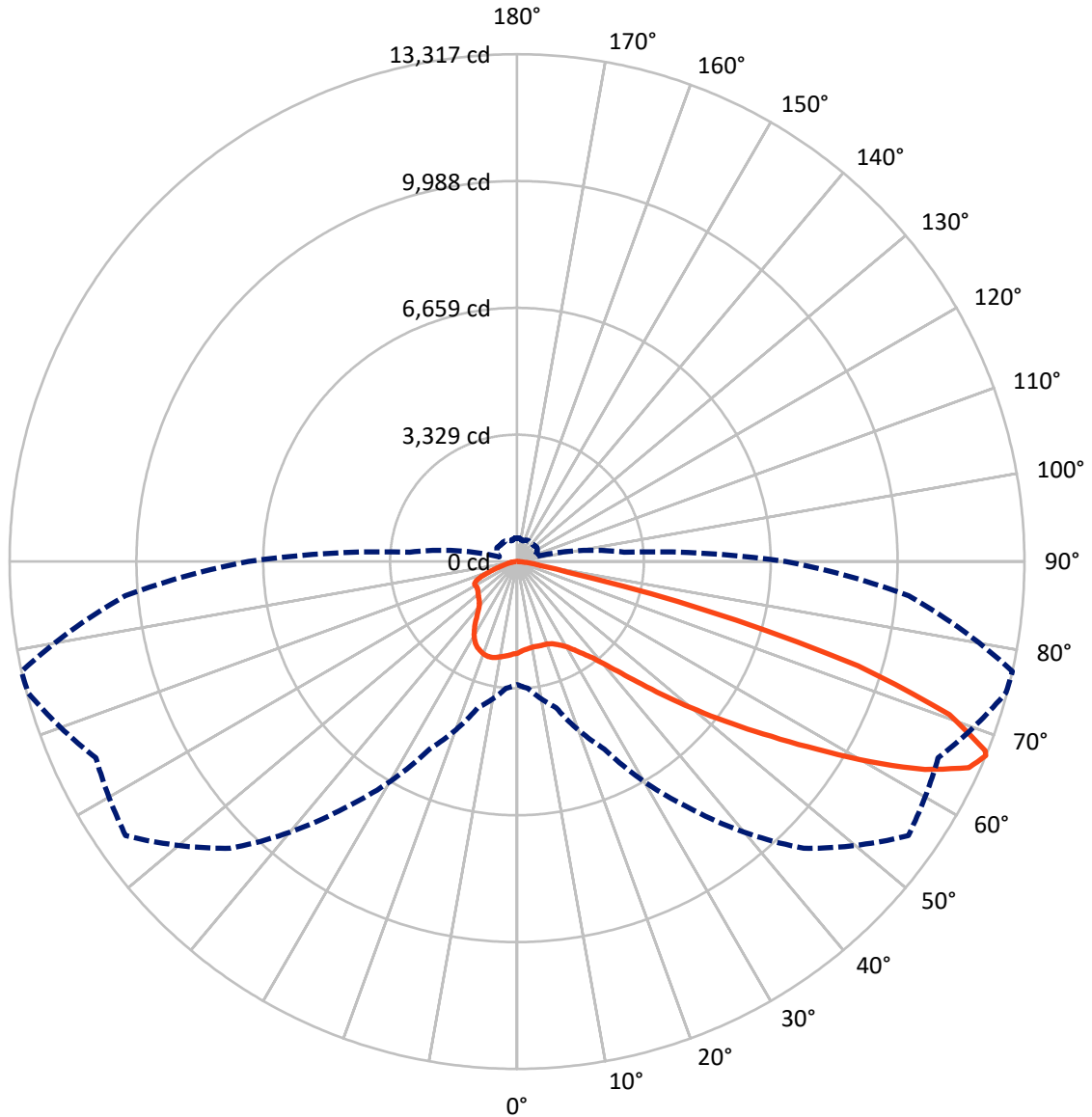
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 fc  
 Type III - Medium - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral    - - - Horizontal Cone Through 67-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2809.7	0.0	2809.7
	% Fixture	17.2	0.0	17.2
<b>Street Side</b>	Lumens	13540.3	0.0	13540.3
	% Fixture	82.8	0.0	82.8
<b>Total</b>	Lumens	16350.0	0.0	16350.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	214.3	1.3
10°-20°	593.5	3.6
20°-30°	1008.4	6.2
30°-40°	1613.3	9.9
40°-50°	2483.6	15.2
50°-60°	3445.8	21.1
60°-70°	4596.5	28.1
70°-80°	2187.5	13.4
80°-90°	207.1	1.3
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°	16350.0	100.0
0°-180°	16350.0	100.0



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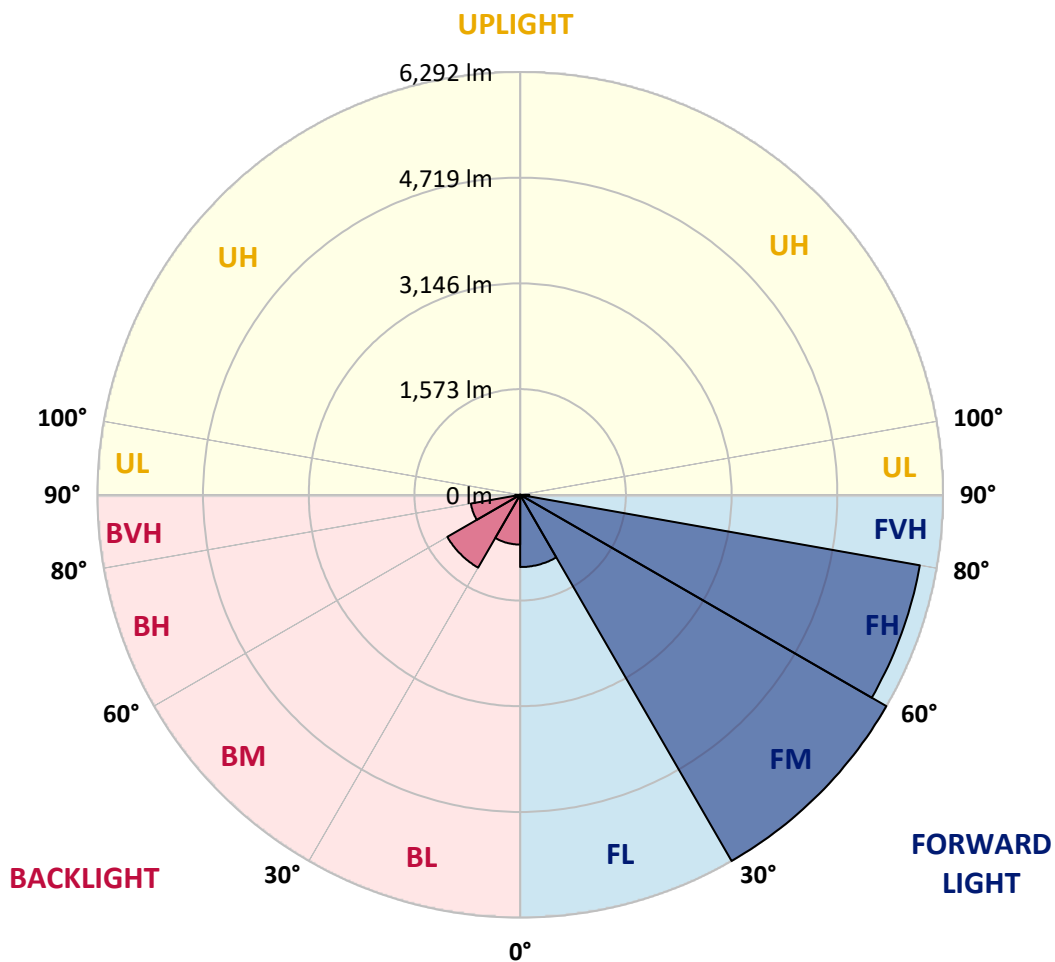
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1075.2	6.6			
FM (30°-60°)	6291.6	38.5			
FH (60°-80°)	6038.9	36.9			G3/7500
FVH (80°-90°)	134.5	0.8			G2/225
BL (0°-30°)	741.1	4.5	B2/1000		
BM (30°-60°)	1251.0	7.7	B2/2500		
BH (60°-80°)	745.0	4.6	B2/1000		G2/1000
BVH (80°-90°)	72.6	0.4			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°	65°	75°	77.5°	85°
0°	2406.3	2406.3	2406.3	2406.3	2406.3	2406.3	2406.3	2406.3	2406.3	2406.3	2406.3
2.5°	2157.7	2167.8	2168.8	2198.1	2211.2	2244.6	2281.0	2313.3	2341.6	2351.7	2369.9
5°	1941.4	1941.4	1944.4	1963.6	2001.0	2054.6	2130.4	2213.3	2300.2	2321.4	2375.0
7.5°	1828.2	1830.2	1832.3	1851.5	1880.8	1928.3	2004.1	2117.3	2261.8	2297.1	2391.1
10°	1838.3	1835.3	1825.2	1821.1	1833.3	1863.6	1929.3	2045.5	2229.4	2284.0	2420.4
12.5°	1997.0	1990.9	1957.6	1909.1	1864.6	1853.5	1899.0	2009.1	2214.3	2284.0	2470.0
15°	2268.8	2272.9	2207.2	2106.1	1989.9	1911.1	1905.0	1996.0	2209.2	2290.1	2527.6
17.5°	2622.6	2624.6	2533.6	2387.1	2194.1	2031.3	1946.5	1996.0	2209.2	2296.1	2583.1
20°	2998.5	2984.4	2881.3	2697.3	2446.7	2198.1	2022.3	2008.1	2215.3	2305.2	2635.7
22.5°	3320.9	3307.8	3199.6	3006.6	2719.6	2395.2	2124.3	2048.5	2248.6	2342.6	2709.5
25°	3602.9	3611.0	3505.8	3288.6	2991.4	2617.5	2276.9	2141.5	2318.4	2410.3	2800.4
27.5°	3945.5	3930.3	3809.0	3601.9	3271.4	2847.9	2467.9	2258.7	2401.2	2492.2	2911.6
30°	4341.6	4334.6	4170.8	3957.6	3579.6	3105.6	2656.9	2385.1	2509.4	2604.4	3051.1
32.5°	4822.7	4821.7	4645.8	4384.1	3926.3	3396.7	2880.3	2557.9	2667.0	2763.0	3236.0
35°	5367.4	5366.4	5184.5	4838.9	4325.5	3719.1	3143.0	2768.1	2862.1	2963.1	3456.3
37.5°	5745.4	5739.3	5644.3	5308.8	4767.1	4094.0	3471.5	3051.1	3083.4	3196.6	3722.1
40°	5818.1	5854.5	5936.4	5738.3	5249.2	4510.4	3800.9	3355.3	3385.6	3531.1	4056.6
42.5°	5739.3	5786.8	6058.7	6114.3	5731.2	5014.7	4213.3	3776.7	3815.1	3996.0	4449.8
45°	5670.6	5712.0	6052.6	6322.4	6207.2	5564.5	4727.7	4291.1	4363.9	4588.2	4898.5
47.5°	5553.4	5591.8	5933.4	6359.8	6479.1	6094.0	5347.2	4909.6	5034.9	5306.8	5409.9
50°	5547.3	5564.5	5770.7	6234.5	6573.1	6496.3	6033.4	5633.2	5825.2	6138.5	5975.8
52.5°	5393.7	5514.0	5700.9	6034.4	6575.1	6730.7	6709.5	6426.5	6722.7	7069.3	6596.3
55°	4453.8	4592.3	5468.5	5936.4	6563.0	6931.9	7327.0	7270.4	7733.3	8098.1	7291.6
57.5°	4158.7	4217.3	4797.4	5965.7	6664.0	7264.3	7944.5	8176.9	8889.4	9287.6	8125.4
60°	4077.9	4139.5	4663.0	5979.8	6937.9	7869.7	8782.3	9200.7	10248.7	10671.2	9072.4
62.5°	3987.9	4067.8	4673.1	5993.0	7419.0	8765.1	9894.0	10311.4	11644.4	12021.3	9959.7
65°	3725.2	3831.3	4486.2	5910.1	7945.5	9888.9	11363.4	11469.5	12797.5	13037.0	10495.3
67°	3226.9	3343.1	3972.8	5431.1	7897.0	10645.9	12538.8	12194.2	13287.7	13317.0	10321.5
67.5°	3069.3	3189.5	3798.9	5232.0	7758.5	10744.9	12747.0	12294.2	13283.6	13251.3	10159.8
70°	2066.7	2202.1	2690.3	3841.4	6223.4	10000.1	12696.4	11986.0	12412.5	12041.6	8728.7
72.5°	1025.8	1029.8	1342.1	2104.1	3770.6	7172.4	10591.3	10253.8	10061.8	9361.4	6405.3
75°	494.2	503.3	633.7	929.8	1589.7	3702.9	7222.9	6918.7	5890.9	5100.6	3205.7
77.5°	377.0	386.1	492.2	605.4	663.0	1207.7	3577.6	2891.4	1706.9	1363.3	903.5
80°	291.1	308.2	415.4	464.9	438.6	484.1	1124.8	885.3	664.0	609.4	447.7
82.5°	227.4	237.5	352.7	352.7	303.2	324.4	523.5	511.4	412.3	371.9	240.5
85°	160.7	180.9	284.0	262.8	199.1	201.1	313.3	300.2	212.2	170.8	94.0
87.5°	71.8	92.0	202.1	171.8	106.1	81.9	128.3	110.2	83.9	64.7	43.5
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2406.3	2406.3	2406.3	2406.3	2406.3	2406.3	2406.3	2406.3	2406.3	2406.3	2406.3
2.5°	2390.1	2406.3	2431.6	2446.7	2466.9	2475.0	2483.1	2497.2	2508.4	2505.3	2500.3
5°	2412.4	2439.6	2471.0	2481.1	2481.1	2471.0	2464.9	2465.9	2462.9	2460.9	2454.8
7.5°	2444.7	2482.1	2504.3	2494.2	2462.9	2423.5	2386.1	2363.8	2342.6	2329.5	2333.5
10°	2490.2	2531.6	2532.6	2488.2	2413.4	2327.5	2253.7	2206.2	2160.7	2140.5	2146.6
12.5°	2555.9	2597.3	2561.9	2465.9	2334.5	2200.1	2064.7	1966.7	1878.7	1857.5	1851.5
15°	2626.6	2658.9	2580.1	2418.4	2221.3	2000.0	1772.6	1626.1	1528.1	1510.9	1504.8
17.5°	2688.3	2706.4	2571.0	2333.5	2042.5	1693.8	1429.0	1330.0	1309.8	1319.9	1319.9
20°	2742.8	2736.8	2531.6	2202.1	1760.5	1354.2	1200.6	1199.6	1226.9	1252.2	1254.2
22.5°	2811.5	2764.1	2468.9	2007.1	1424.0	1129.9	1103.6	1129.9	1160.2	1188.5	1191.5
25°	2893.4	2794.4	2385.1	1729.2	1145.0	1025.8	1036.9	1059.1	1078.3	1100.6	1101.6
27.5°	2975.3	2817.6	2266.8	1402.7	993.4	959.1	971.2	980.3	985.4	999.5	999.5
30°	3070.3	2835.8	2096.0	1123.8	923.7	900.5	893.4	889.3	893.4	912.6	913.6
32.5°	3189.5	2868.1	1862.6	964.1	891.4	859.0	822.6	802.4	816.6	850.9	857.0
35°	3324.9	2906.5	1582.6	900.5	880.3	838.8	772.1	740.8	745.8	777.2	782.2
37.5°	3494.7	2956.1	1306.7	885.3	891.4	836.8	748.9	704.4	682.2	683.2	682.2
40°	3712.0	3005.6	1088.4	889.3	915.6	841.8	737.8	668.0	621.5	623.6	627.6
42.5°	3939.4	3037.9	950.0	901.5	944.9	848.9	733.7	632.6	592.2	626.6	657.9
45°	4205.2	3028.8	878.2	912.6	967.2	852.0	718.6	628.6	595.3	698.3	757.0
47.5°	4510.4	2989.4	837.8	917.6	973.2	850.9	707.4	641.7	620.5	799.4	866.1
50°	4841.9	2927.8	805.5	909.6	970.2	846.9	719.6	657.9	630.6	821.6	873.2
52.5°	5204.7	2871.2	772.1	891.4	955.0	834.8	734.7	650.8	602.3	757.0	796.4
55°	5634.2	2858.0	734.7	860.0	929.8	821.6	726.6	628.6	571.0	671.1	695.3
57.5°	6125.4	2939.9	686.2	821.6	895.4	795.4	707.4	616.5	559.9	610.4	623.6
60°	6748.9	3120.8	634.7	781.2	853.0	755.9	690.3	619.5	562.9	601.3	604.4
62.5°	7236.1	3283.5	588.2	731.7	796.4	708.4	672.1	622.5	572.0	613.4	608.4
65°	7412.9	3203.7	530.6	657.9	716.5	655.9	646.8	624.6	572.0	620.5	609.4
67°	7050.1	2822.7	476.0	584.1	640.7	609.4	622.5	616.5	561.9	619.5	600.3
67.5°	6877.3	2688.3	461.9	572.0	620.5	595.3	616.5	612.4	558.9	617.5	595.3
70°	5671.6	1928.3	390.1	480.0	519.5	524.5	579.1	586.2	534.6	580.1	539.7
72.5°	4035.4	1206.7	336.5	371.9	419.4	448.7	528.6	550.8	502.3	504.3	470.9
75°	1997.0	647.8	300.2	287.0	326.4	373.9	460.8	502.3	454.8	420.4	409.3
77.5°	674.1	366.9	253.7	231.4	253.7	300.2	382.0	438.6	401.2	355.7	348.7
80°	348.7	266.8	198.1	186.0	200.1	232.4	299.1	364.8	342.6	344.6	284.0
82.5°	217.3	162.7	142.5	141.5	151.6	177.9	220.3	296.1	294.1	251.6	182.9
85°	101.1	94.0	91.0	94.0	97.0	101.1	143.5	211.2	223.3	135.4	120.3
87.5°	42.4	41.4	36.4	39.4	43.5	42.4	57.6	89.9	125.3	84.9	77.8
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)