

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: P270457

Luminaire Tested: **NAV-AF-03-D-UNV-T2-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270457
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
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-T2-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15404.3 lumens
Efficiency: N/A
Efficacy: 92.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B2 - U0 - G2

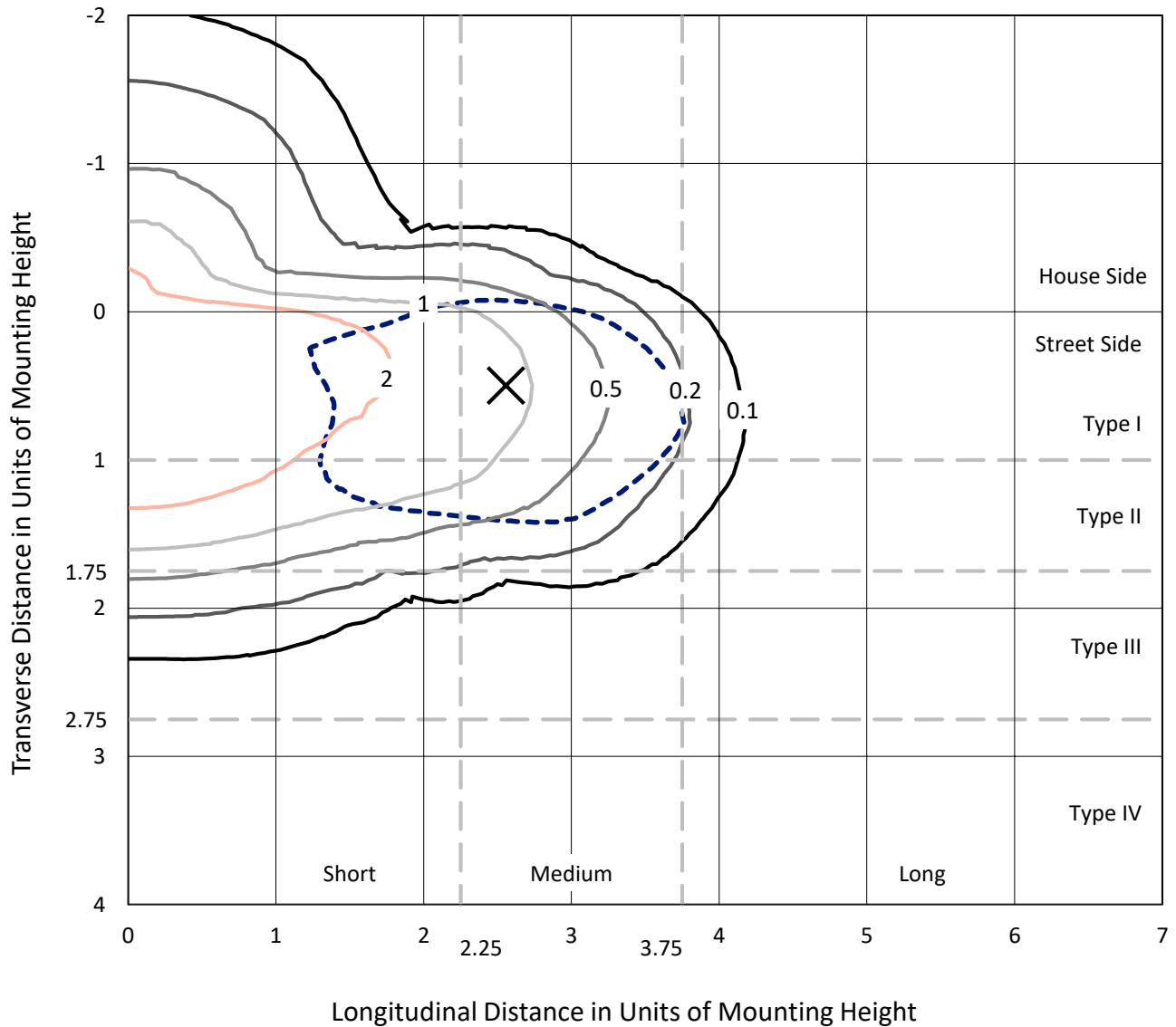
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

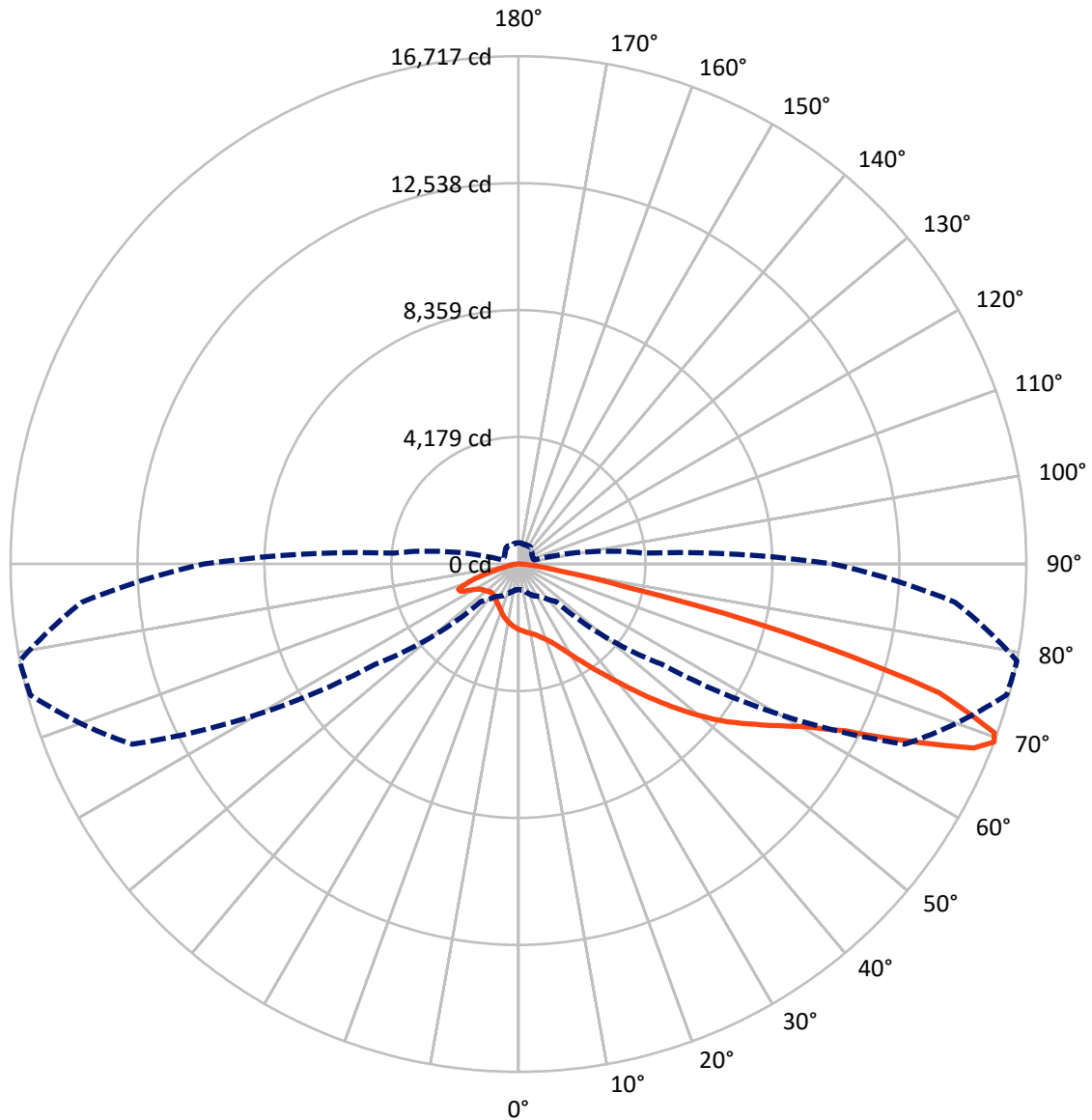
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.2 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2897.8	0.0	2897.8
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	12506.5	0.0	12506.5
	% Fixture	81.2	0.0	81.2
Total	Lumens	15404.3	0.0	15404.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.4	1.3
10°-20°	574.5	3.7
20°-30°	949.4	6.2
30°-40°	1537.3	10.0
40°-50°	2455.9	15.9
50°-60°	3517.0	22.8
60°-70°	3918.5	25.4
70°-80°	1960.4	12.7
80°-90°	290.9	1.9
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°	15404.3	100.0
0°-180°	15404.3	100.0

Coefficient of Utilization



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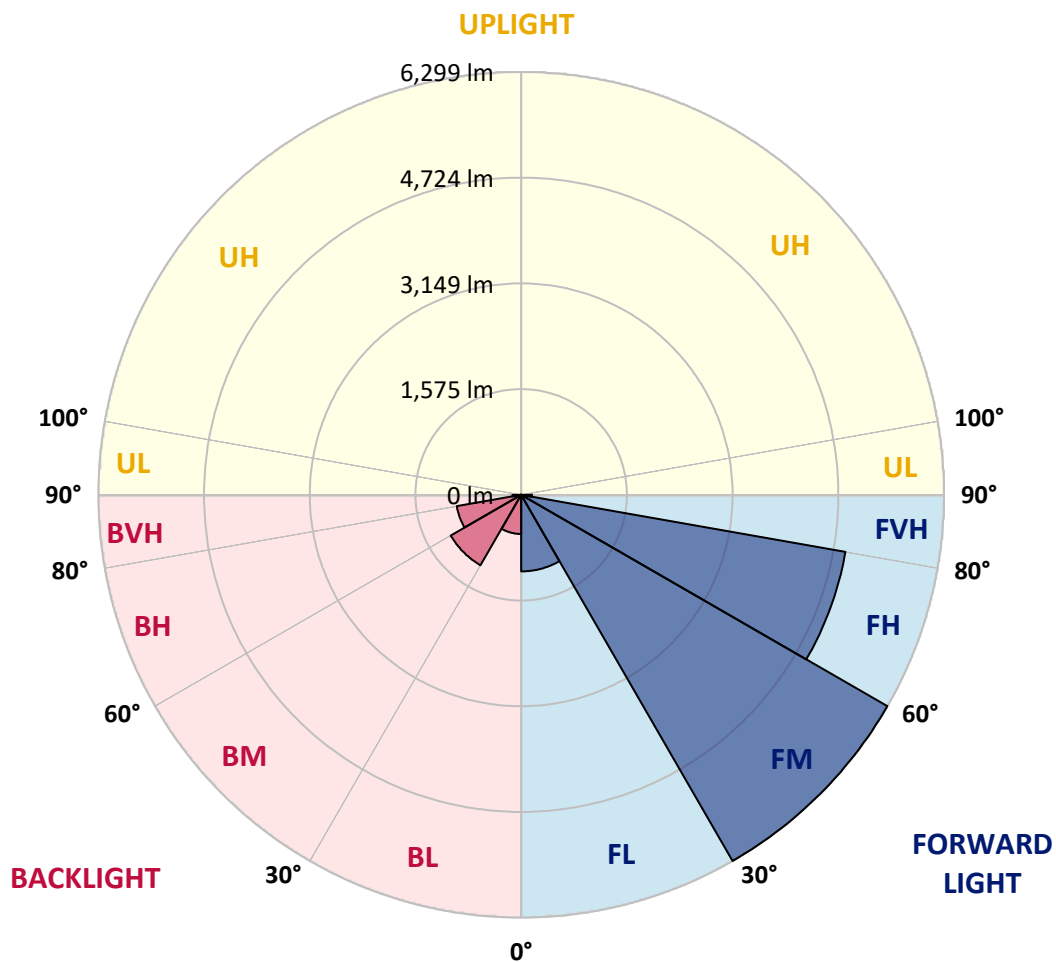
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1140.6	7.4			
FM (30°-60°)	6298.9	40.9			
FH (60°-80°)	4904.5	31.8			G2/5000
FVH (80°-90°)	162.6	1.1			G2/225
BL (0°-30°)	583.8	3.8	B2/1000		
BM (30°-60°)	1211.3	7.9	B2/2500		
BH (60°-80°)	974.3	6.3	B2/1000		G2/1000
BVH (80°-90°)	128.4	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	2161.7	2161.7	2161.7	2161.7	2161.7	2161.7	2161.7	2161.7	2161.7	2161.7	2161.7
2.5°	2373.3	2368.3	2367.4	2352.2	2344.1	2327.0	2286.6	2245.4	2207.0	2187.0	2165.8
5°	2571.8	2561.7	2556.8	2531.6	2509.4	2471.1	2407.5	2342.2	2273.6	2238.2	2195.9
7.5°	2691.9	2692.8	2692.8	2672.6	2650.4	2604.1	2523.5	2433.8	2332.0	2285.6	2219.2
10°	2701.9	2702.9	2718.0	2723.0	2728.2	2703.9	2629.2	2516.4	2385.4	2325.0	2238.2
12.5°	2602.1	2609.1	2634.4	2670.7	2722.0	2748.3	2715.9	2605.2	2454.0	2380.4	2274.6
15°	2468.2	2475.1	2507.3	2562.9	2645.5	2733.2	2778.5	2707.0	2543.7	2457.0	2328.0
17.5°	2402.5	2410.6	2432.8	2477.2	2557.7	2675.7	2811.8	2815.7	2649.6	2549.7	2391.5
20°	2371.3	2377.4	2405.7	2442.0	2503.3	2616.3	2814.7	2930.7	2775.5	2659.5	2469.1
22.5°	2442.9	2444.8	2459.0	2479.1	2520.5	2607.2	2812.8	3049.6	2932.6	2797.6	2568.9
25°	2652.5	2639.4	2629.2	2604.1	2614.2	2675.7	2845.0	3176.5	3134.2	2979.0	2701.9
27.5°	2900.4	2898.4	2872.2	2813.8	2776.5	2815.7	2936.6	3318.7	3381.1	3209.9	2876.3
30°	3176.5	3177.6	3150.4	3078.9	3003.3	3007.3	3082.9	3483.0	3676.5	3487.9	3090.9
32.5°	3465.8	3483.9	3433.5	3361.9	3270.3	3241.1	3292.5	3681.4	4018.1	3816.4	3339.8
35°	3811.5	3814.6	3759.0	3654.2	3562.6	3516.1	3563.5	3929.4	4412.1	4202.5	3643.2
37.5°	4170.2	4172.3	4114.9	3980.7	3864.9	3834.7	3887.1	4230.7	4829.4	4641.9	4000.0
40°	4463.5	4484.7	4439.3	4313.3	4196.4	4178.2	4254.0	4591.4	5362.4	5161.9	4424.2
42.5°	4796.1	4820.2	4765.9	4634.9	4542.1	4536.1	4653.9	5002.8	5892.6	5763.5	4904.9
45°	5171.1	5205.3	5129.7	4982.4	4903.9	5036.9	5044.1	5458.2	6503.3	6436.7	5446.2
47.5°	5580.1	5608.4	5546.9	5388.7	5303.1	5495.6	5425.9	5951.0	7163.4	7158.4	6031.6
50°	5895.5	5926.8	5932.9	5863.3	5773.6	5797.8	5845.2	6469.1	7821.5	7900.1	6637.3
52.5°	5838.2	5868.4	6004.5	6186.8	6331.0	6268.5	6326.0	7019.3	8457.5	8623.6	7212.9
55°	5374.6	5390.6	5645.7	6079.0	6692.7	6991.1	6995.1	7617.8	9062.1	9294.9	7759.0
57.5°	4539.0	4541.1	4872.6	5511.6	6482.1	7459.6	8051.2	8369.7	9692.9	10036.7	8436.3
60°	3211.8	3220.0	3605.8	4441.3	5727.4	7403.2	9187.1	9715.1	10423.7	10870.1	9309.0
62.5°	1906.7	1924.9	2216.2	2886.3	4254.0	6677.6	9858.2	12108.7	11499.9	12092.5	10705.8
65°	1240.6	1255.7	1430.0	1766.6	2513.5	4858.6	9637.6	14426.6	13536.6	14015.4	12713.4
67.5°	955.3	967.5	1104.6	1308.1	1541.9	2626.4	7705.7	14912.4	16015.8	16165.0	14407.5
69°	839.5	849.5	950.3	1145.9	1298.1	1738.4	5742.4	14030.4	16635.6	16717.3	14428.5
70°	778.0	786.0	880.8	1050.1	1192.2	1387.7	4395.0	13006.6	16408.9	16617.4	14012.3
72.5°	641.0	647.9	715.5	845.6	974.5	988.7	1947.0	9497.4	13816.8	14484.0	11857.6
75°	535.1	539.2	583.4	678.2	789.2	787.0	994.8	5379.6	8431.2	9226.3	7321.6
77.5°	446.5	449.5	478.6	537.1	622.9	619.8	700.4	2321.9	3722.8	3591.8	2520.5
80°	394.0	396.1	411.2	426.2	480.8	477.7	519.0	1066.3	1514.7	1399.7	953.5
82.5°	299.3	303.4	380.0	387.0	372.8	359.9	361.7	620.8	776.0	706.4	511.9
85°	169.3	170.3	243.9	285.2	324.5	243.9	234.7	320.4	382.9	335.5	223.8
87.5°	75.5	78.6	116.9	135.0	175.3	143.1	134.0	136.1	165.3	137.0	88.8
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°	2161.7	2161.7	2161.7	2161.7	2161.7	2161.7	2161.7	2161.7	2161.7	2161.7	2161.7
2.5°	2145.6	2128.4	2088.1	2046.8	2005.5	1979.3	1952.0	1927.0	1916.9	1915.8	1896.7
5°	2154.7	2114.3	2022.7	1921.8	1826.2	1751.5	1689.1	1648.7	1609.5	1602.3	1585.2
7.5°	2157.6	2092.2	1943.0	1781.8	1635.6	1532.9	1470.3	1443.1	1424.1	1419.0	1412.9
10°	2156.7	2063.9	1854.3	1633.7	1467.3	1389.8	1366.6	1372.6	1380.7	1384.6	1384.6
12.5°	2172.8	2050.9	1765.7	1494.6	1358.4	1321.1	1339.4	1370.6	1394.8	1404.9	1406.8
15°	2202.0	2042.7	1668.0	1373.6	1281.9	1291.0	1335.3	1380.7	1414.9	1430.0	1434.1
17.5°	2238.2	2031.6	1555.1	1273.8	1237.5	1268.9	1326.3	1383.7	1425.0	1444.1	1447.2
20°	2278.6	2015.5	1438.1	1199.2	1198.2	1237.5	1294.9	1359.6	1403.8	1425.0	1424.1
22.5°	2333.1	2000.4	1329.3	1144.9	1155.0	1191.2	1238.6	1297.1	1338.4	1357.5	1353.4
25°	2405.7	1986.3	1231.5	1096.6	1105.5	1129.8	1162.9	1207.3	1236.5	1246.7	1239.7
27.5°	2503.3	1975.3	1155.0	1052.2	1051.1	1062.2	1082.4	1106.5	1120.6	1117.6	1106.5
30°	2623.3	1964.2	1098.4	1012.7	998.7	997.7	1006.8	1021.0	1029.9	1011.9	1002.8
32.5°	2757.3	1945.0	1048.1	978.6	953.5	944.3	948.3	967.5	1004.8	986.6	979.6
35°	2915.5	1922.9	997.7	941.2	922.1	905.0	908.0	949.4	1062.2	1049.1	1042.0
37.5°	3106.0	1902.7	951.3	901.0	899.9	878.8	876.7	926.2	1077.3	1049.1	1043.0
40°	3334.8	1898.7	910.1	856.7	872.8	864.7	857.6	887.9	993.6	936.3	925.2
42.5°	3610.9	1916.9	879.8	814.4	841.5	860.7	847.6	854.6	897.9	846.6	837.5
45°	3933.4	1966.2	857.6	777.0	808.2	857.6	842.5	836.5	843.5	815.3	809.3
47.5°	4309.3	2053.9	842.5	745.8	777.0	849.5	840.5	828.3	825.5	809.3	805.2
50°	4711.4	2171.8	832.4	717.6	748.7	835.5	839.5	822.4	817.3	810.4	808.2
52.5°	5110.5	2299.8	820.3	693.3	725.7	818.4	840.5	816.3	809.3	805.2	803.3
55°	5507.6	2432.8	798.1	672.2	708.5	798.1	839.5	808.2	800.2	800.2	800.2
57.5°	6022.5	2635.4	768.9	655.0	686.3	772.0	826.4	799.2	788.2	789.2	790.1
60°	6766.4	2974.9	736.7	635.9	657.1	741.7	806.1	783.1	769.9	774.0	775.0
62.5°	8008.8	3568.5	692.4	608.7	626.8	709.5	780.0	760.9	748.7	755.8	756.8
65°	9665.8	4287.2	633.9	574.5	595.5	673.2	746.9	734.6	721.6	738.8	737.7
67.5°	10676.5	4497.8	572.4	538.2	565.4	634.9	705.4	700.4	691.3	721.6	719.5
69°	10345.1	4116.8	537.1	515.0	544.3	608.7	679.3	677.2	670.1	699.4	697.4
70°	9830.1	3761.1	515.0	499.8	533.1	592.6	662.1	662.1	655.0	680.2	675.3
72.5°	7896.0	2789.5	463.5	461.5	494.8	548.2	615.8	620.8	616.7	625.8	620.8
75°	4635.9	1681.0	413.2	419.2	448.4	500.9	564.3	568.4	564.3	563.3	564.3
77.5°	1607.4	753.9	364.8	373.9	399.0	452.4	507.9	515.9	510.0	503.0	504.8
80°	628.9	438.5	312.4	325.5	346.7	398.0	451.5	456.5	447.4	446.5	438.5
82.5°	377.9	267.1	242.9	264.0	290.2	345.7	390.0	388.0	380.9	422.3	369.8
85°	164.3	148.1	177.3	198.5	211.6	259.0	329.6	320.4	303.4	267.1	261.0
87.5°	66.6	76.5	97.7	117.9	127.0	167.4	225.7	217.7	220.8	181.4	180.4
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)