

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: P196979

Luminaire Tested: **NAV-AF-05-D-UNV-AFL-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196979
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-AFL-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20312 lumens
Efficiency: N/A
Efficacy: 96.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

Input Watts (W): 210
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

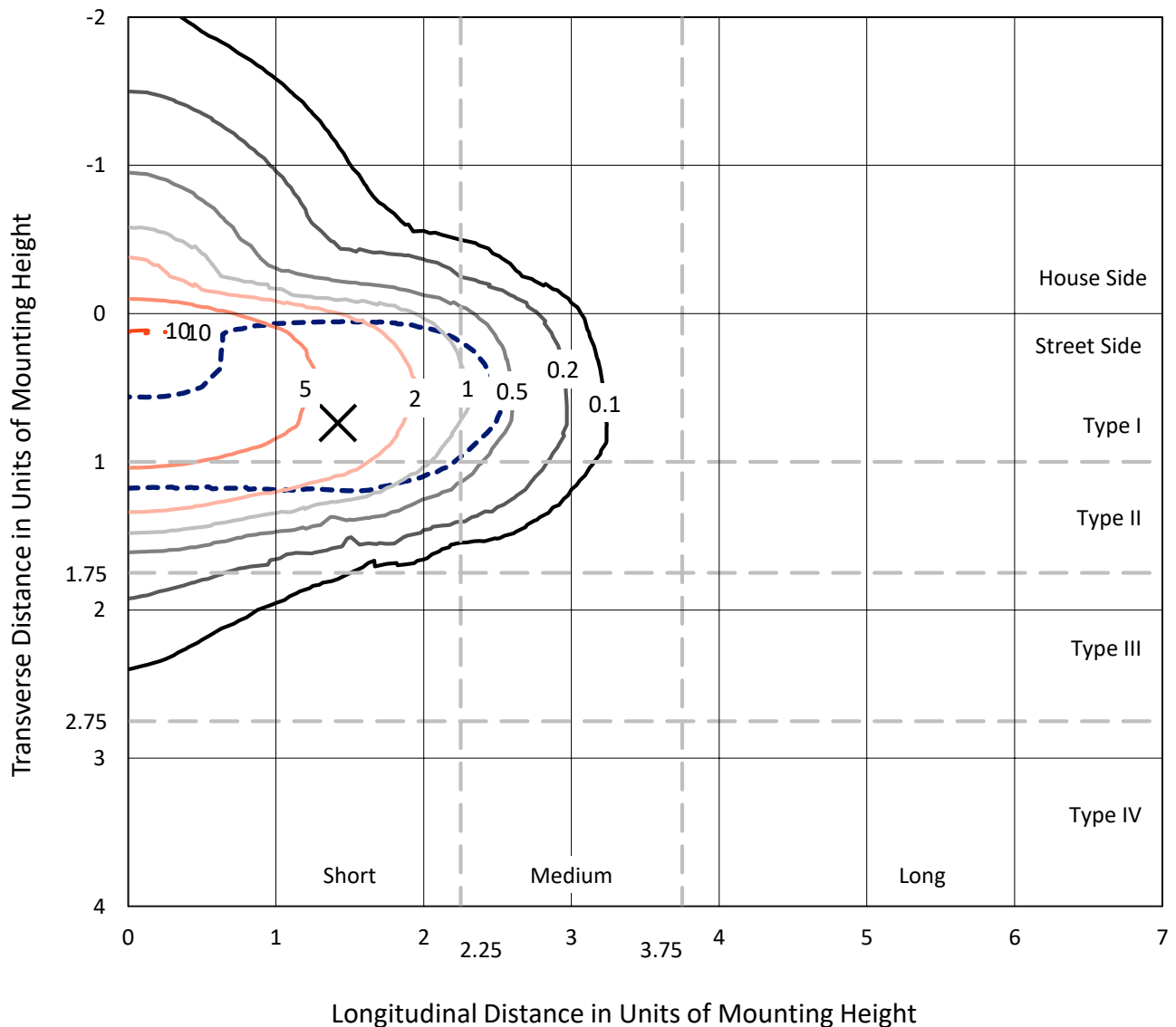


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Iso-Footcandle Lines of Horizontal Illumination

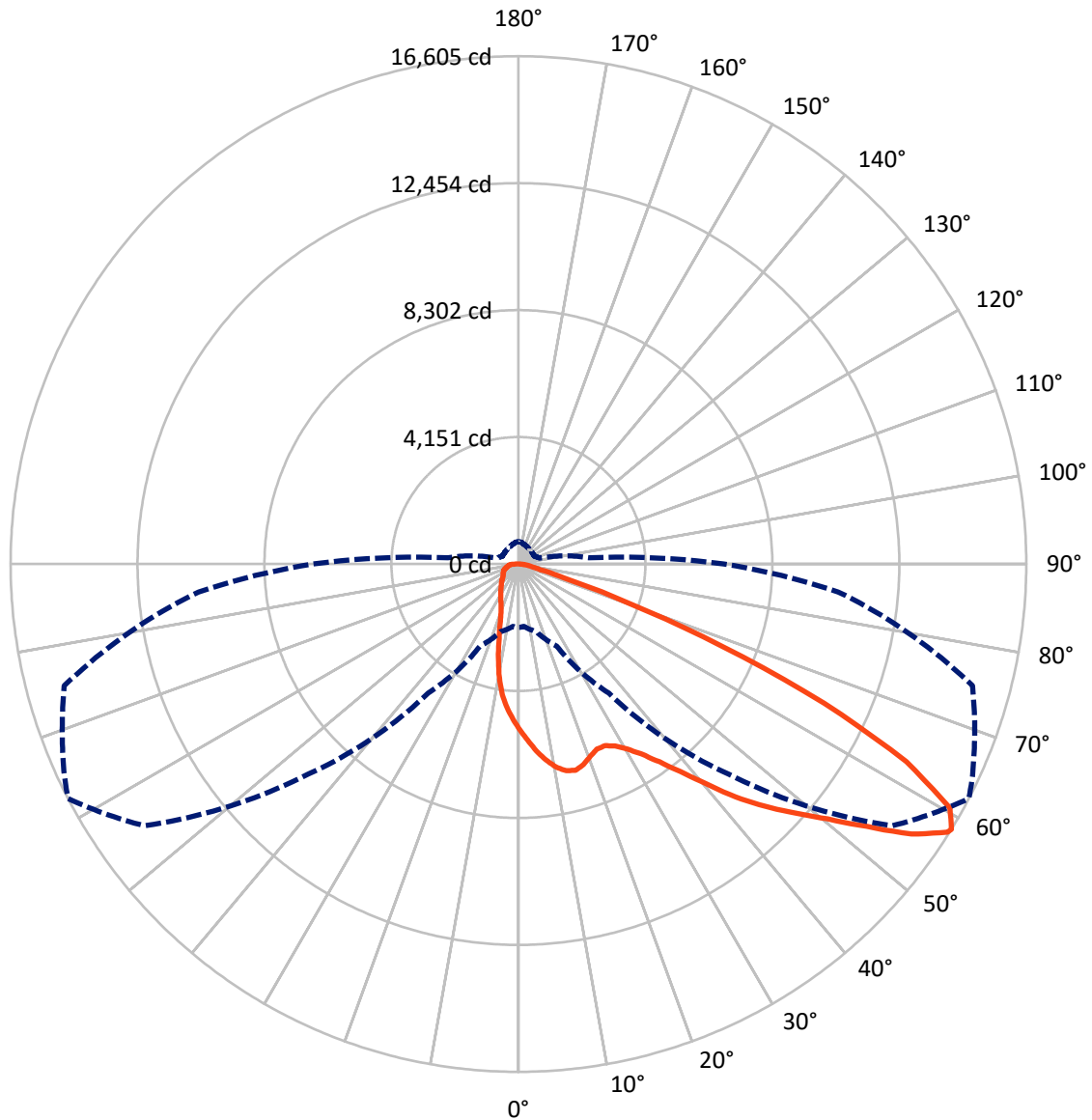
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.2 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3118.7	0.0	3118.7
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	17193.3	0.0	17193.3
	% Fixture	84.6	0.0	84.6
Total	Lumens	20312.0	0.0	20312.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	484.7	2.4
10°-20°	1223.4	6.0
20°-30°	1982.6	9.8
30°-40°	3165.4	15.6
40°-50°	4604.2	22.7
50°-60°	4817.9	23.7
60°-70°	2937.1	14.5
70°-80°	821.4	4.0
80°-90°	275.3	1.4
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°	20312.0	100.0
0°-180°	20312.0	100.0



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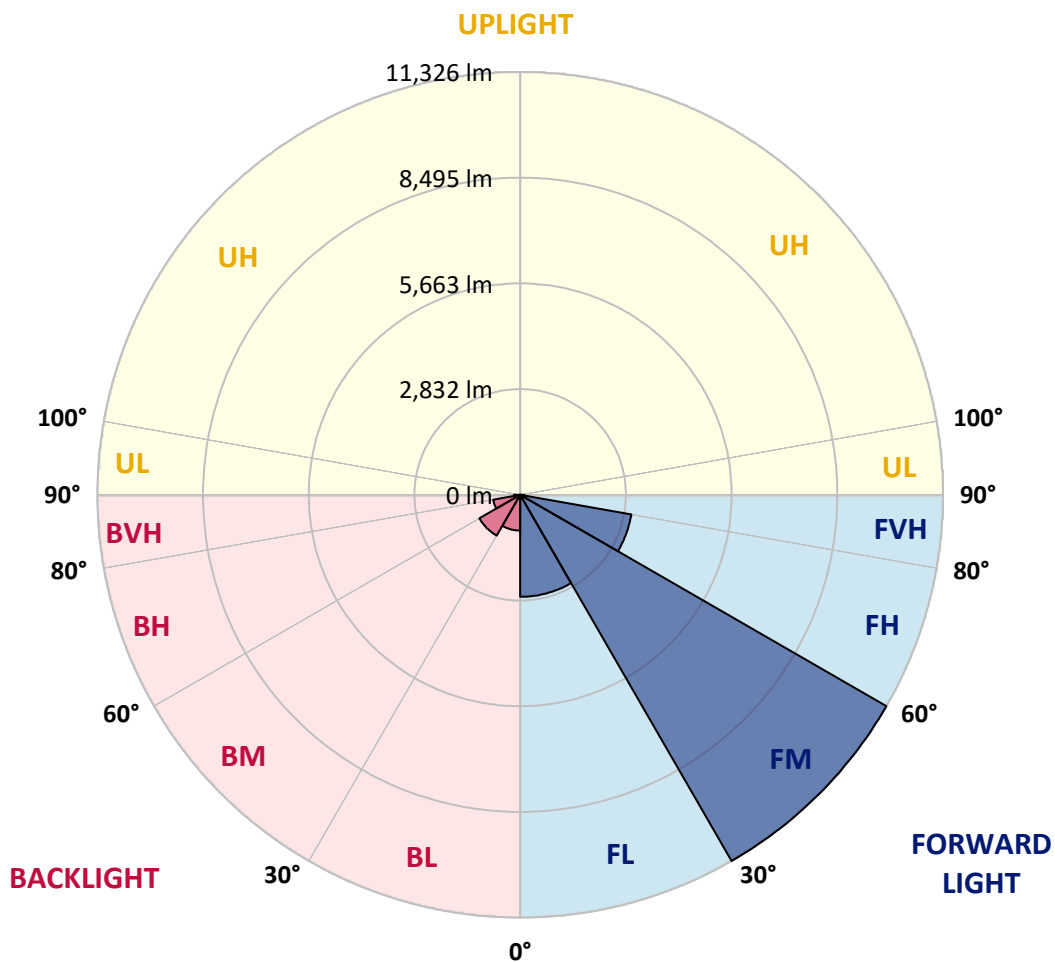
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2732.0	13.5			
FM (30°-60°)	11326.2	55.8			
FH (60°-80°)	3024.3	14.9			G2/5000
FVH (80°-90°)	110.8	0.5			G2/225
BL (0°-30°)	958.7	4.7	B2/1000		
BM (30°-60°)	1261.2	6.2	B2/2500		
BH (60°-80°)	734.2	3.6	B2/1000		G2/1000
BVH (80°-90°)	164.6	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 Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	5423.2	5423.2	5423.2	5423.2	5423.2	5423.2	5423.2	5423.2	5423.2	5423.2	5423.2
2.5°	6155.7	6151.8	6099.8	6065.5	6024.9	5931.0	5837.0	5767.2	5731.7	5595.8	5463.8
5°	6664.7	6649.5	6620.3	6583.5	6530.1	6412.1	6263.6	6135.3	6084.6	5843.4	5600.9
7.5°	6395.6	6419.7	6509.8	6611.4	6718.0	6725.6	6620.3	6467.9	6412.1	6089.6	5734.2
10°	5650.4	5640.2	5753.2	5951.3	6302.9	6650.7	6824.7	6749.8	6691.4	6323.2	5867.5
12.5°	5424.4	5421.9	5440.9	5491.7	5712.6	6189.9	6772.6	6935.1	6914.8	6570.8	6009.7
15°	5493.0	5495.5	5494.3	5500.6	5561.5	5788.8	6481.9	6997.3	7060.8	6815.8	6154.4
17.5°	5712.6	5703.7	5675.8	5645.3	5654.2	5735.5	6168.3	6890.7	7081.1	7034.1	6276.3
20°	6051.6	6051.6	5976.7	5891.6	5835.7	5853.5	6037.6	6707.9	6987.2	7219.5	6367.7
22.5°	6476.8	6483.2	6372.7	6217.9	6090.9	6042.7	6112.5	6572.0	6872.9	7390.8	6448.9
25°	7004.9	7003.7	6842.4	6620.3	6419.7	6304.2	6302.9	6578.4	6837.4	7591.4	6534.0
27.5°	7658.7	7599.0	7411.2	7095.1	6812.0	6635.5	6555.5	6738.3	6912.3	7837.7	6648.2
30°	8396.3	8335.3	8089.1	7682.8	7299.4	7041.7	6909.7	7015.1	7140.8	8151.3	6820.9
32.5°	9126.2	9140.2	8850.7	8392.5	7899.9	7536.8	7341.3	7406.1	7493.7	8534.6	7054.4
35°	10195.1	10193.8	9815.5	9243.0	8657.8	8155.1	7907.5	7941.8	8021.8	9075.4	7382.0
37.5°	10992.3	10979.6	10735.9	10229.4	9570.5	8967.5	8609.5	8614.6	8683.2	9754.6	7813.6
40°	11073.6	11071.0	11069.8	10997.4	10546.7	9978.0	9529.9	9437.2	9465.2	10475.7	8271.9
42.5°	10452.8	10545.5	10812.1	11220.8	11346.5	11048.2	10624.2	10417.3	10356.3	11303.4	8756.8
45°	9568.0	9615.0	10082.1	11001.2	11748.9	12053.6	11735.0	11298.3	11194.2	12108.2	9151.6
47.5°	9156.7	9136.4	9406.8	10408.4	11709.6	12853.4	12876.2	12160.2	11983.8	12802.6	9488.0
50°	8274.4	8247.7	8589.2	9536.2	11280.5	13250.7	14047.9	13099.6	12773.4	13462.7	9792.7
52.5°	6516.2	6490.8	6949.1	8169.0	10320.8	13102.2	15035.6	14252.3	13696.3	14098.7	10077.0
55°	4240.0	4242.6	4679.3	5937.3	8351.8	12236.4	15498.9	15584.0	14960.7	14734.7	10306.8
57.5°	2334.6	2313.0	2624.0	3397.1	5745.6	10270.0	15113.0	16543.7	16218.7	15280.6	10473.1
58°	2075.6	2050.2	2290.1	2956.6	5151.5	9715.2	14918.8	16604.7	16380.0	15370.7	10497.2
60°	1478.9	1435.8	1399.0	1666.8	2968.0	7004.9	13623.9	16209.8	16426.9	15551.0	10474.4
62.5°	1246.6	1197.1	1065.1	1054.9	1397.7	3426.3	10774.0	14235.8	14843.9	15135.9	10106.2
65°	1157.8	1108.2	934.3	872.1	948.3	1478.9	6662.2	10992.3	11804.8	13692.5	9179.5
67.5°	1094.3	1035.9	849.3	768.0	783.3	884.8	2827.1	7189.0	8130.9	10677.5	7364.2
70°	1037.2	972.4	782.0	688.1	675.4	672.8	1104.4	3753.8	4661.5	6987.2	4933.2
72.5°	972.4	908.9	722.3	622.0	594.1	545.9	663.9	1551.3	2126.4	3425.0	2260.9
75°	878.5	826.4	656.3	567.5	519.2	443.0	490.0	743.9	916.6	1311.4	1049.9
77.5°	773.1	731.2	589.0	521.8	457.0	361.8	374.5	504.0	566.2	738.8	608.1
80°	547.1	562.4	514.1	459.5	402.4	292.0	288.2	369.4	406.2	496.4	408.8
82.5°	377.0	388.5	418.9	363.1	325.0	227.2	212.0	256.4	275.5	299.6	198.0
85°	269.1	261.5	290.7	260.2	238.7	144.7	135.8	162.5	173.9	182.8	95.2
87.5°	163.8	162.5	167.6	134.6	124.4	73.6	67.3	77.4	82.5	80.0	45.7
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°	5423.2	5423.2	5423.2	5423.2	5423.2	5423.2	5423.2	5423.2	5423.2	5423.2	5423.2
2.5°	5414.3	5352.1	5216.2	5107.1	4989.0	4898.9	4808.7	4758.0	4702.1	4670.4	4666.6
5°	5473.9	5347.0	5057.6	4788.4	4511.7	4262.9	4019.1	3838.9	3691.6	3607.8	3602.8
7.5°	5540.0	5340.7	4893.8	4427.9	3935.4	3445.3	3012.4	2706.5	2509.7	2418.3	2412.0
10°	5590.7	5314.0	4694.5	3969.6	3188.9	2541.5	2147.9	1967.7	1908.0	1892.8	1890.2
12.5°	5651.7	5295.0	4443.1	3381.9	2437.4	1934.7	1815.3	1803.9	1816.6	1824.2	1825.5
15°	5708.8	5258.1	4104.2	2730.6	1908.0	1729.0	1731.6	1755.7	1781.1	1792.5	1793.8
17.5°	5735.5	5168.0	3658.6	2151.7	1669.4	1636.3	1665.5	1697.3	1720.1	1729.0	1729.0
20°	5735.5	5023.3	3141.9	1743.0	1544.9	1551.3	1586.8	1611.0	1616.0	1608.4	1604.6
22.5°	5711.3	4844.3	2639.2	1520.8	1443.4	1467.5	1495.4	1478.9	1419.3	1373.6	1364.7
25°	5689.8	4632.3	2155.6	1385.0	1354.5	1386.3	1374.8	1261.9	1170.5	1123.5	1115.9
27.5°	5654.2	4375.9	1751.9	1273.3	1268.2	1293.6	1180.6	1071.4	1025.7	1000.3	995.3
30°	5645.3	4097.8	1466.2	1174.3	1183.1	1147.6	1018.1	982.6	972.4	958.4	952.1
32.5°	5674.5	3819.8	1287.2	1093.0	1101.9	985.1	935.6	940.7	939.4	921.6	915.3
35°	5754.5	3549.4	1173.0	1019.4	994.0	882.3	888.6	903.9	903.9	882.3	874.7
37.5°	5894.1	3298.1	1100.6	957.2	869.6	829.0	845.5	865.8	865.8	850.5	844.2
40°	6042.7	3053.1	1046.0	907.7	790.9	792.1	808.7	823.9	830.2	832.8	827.7
42.5°	6177.2	2799.2	987.6	854.4	755.3	764.2	771.8	783.3	809.9	827.7	825.2
45°	6255.9	2544.0	924.2	788.3	731.2	735.0	732.5	752.8	784.5	811.2	811.2
47.5°	6328.3	2334.6	872.1	722.3	707.1	707.1	699.5	719.8	749.0	780.7	783.3
50°	6396.9	2198.7	835.3	671.5	676.6	672.8	670.3	689.3	728.7	766.8	773.1
52.5°	6466.7	2153.0	802.3	634.7	644.9	639.8	642.4	669.0	713.4	752.8	759.1
55°	6564.4	2182.2	768.0	609.3	614.4	613.2	623.3	653.8	693.1	732.5	735.0
57.5°	6685.0	2288.9	738.8	590.3	585.2	592.8	609.3	638.5	676.6	723.6	727.4
58°	6709.1	2314.2	733.8	585.2	578.9	590.3	606.8	634.7	674.1	723.6	727.4
60°	6746.0	2404.4	721.1	575.1	557.3	577.6	597.9	625.8	669.0	729.9	737.6
62.5°	6568.2	2422.1	717.2	563.6	534.4	559.8	584.0	615.7	663.9	751.5	768.0
65°	5952.5	2239.3	690.6	544.6	515.4	545.9	571.3	608.1	679.2	816.3	823.9
67.5°	4778.3	1859.8	625.8	515.4	493.8	529.4	561.1	608.1	685.5	826.4	831.5
70°	3285.4	1397.7	544.6	483.7	468.4	509.1	557.3	622.0	663.9	782.0	766.8
72.5°	1716.3	972.4	477.3	446.9	438.0	491.3	594.1	608.1	638.5	729.9	714.7
75°	864.5	661.4	420.2	405.0	403.7	484.9	665.2	585.2	611.9	686.8	719.8
77.5°	510.3	517.9	374.5	365.6	372.0	473.5	666.5	562.4	581.4	632.2	667.7
80°	349.1	427.8	338.9	336.4	341.5	435.4	614.4	534.4	545.9	597.9	636.0
82.5°	196.8	236.1	297.1	313.6	311.0	356.7	530.6	486.2	500.2	707.1	747.7
85°	95.2	142.2	248.8	293.2	265.3	237.4	431.6	431.6	435.4	506.5	512.9
87.5°	35.5	63.5	167.6	232.3	185.3	142.2	293.2	305.9	340.2	350.4	358.0
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)