

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: P196990

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196990
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-04-D-UNV-AFL-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22377 lumens
Efficiency: N/A
Efficacy: 86.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B3 - U0 - G2

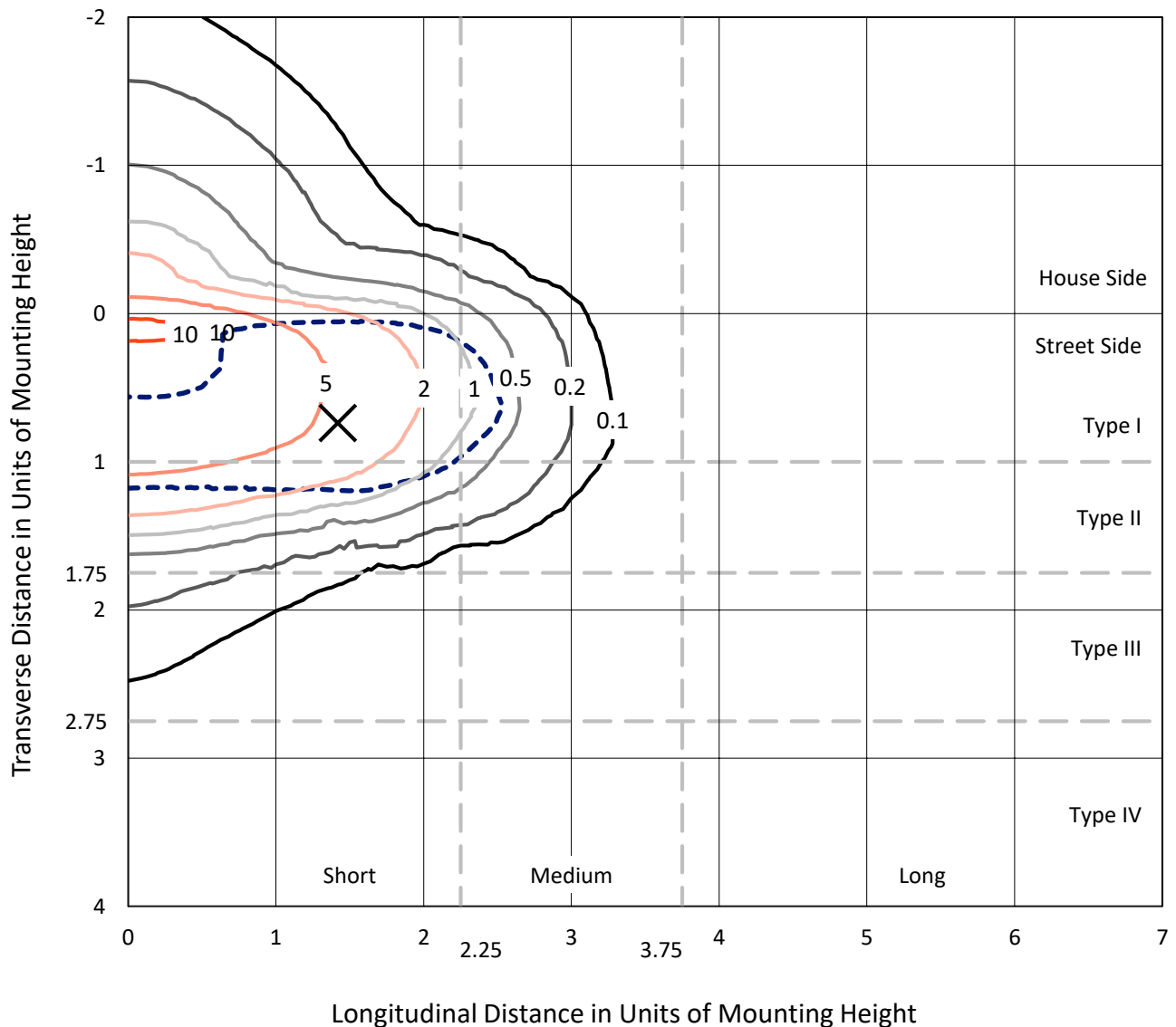
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

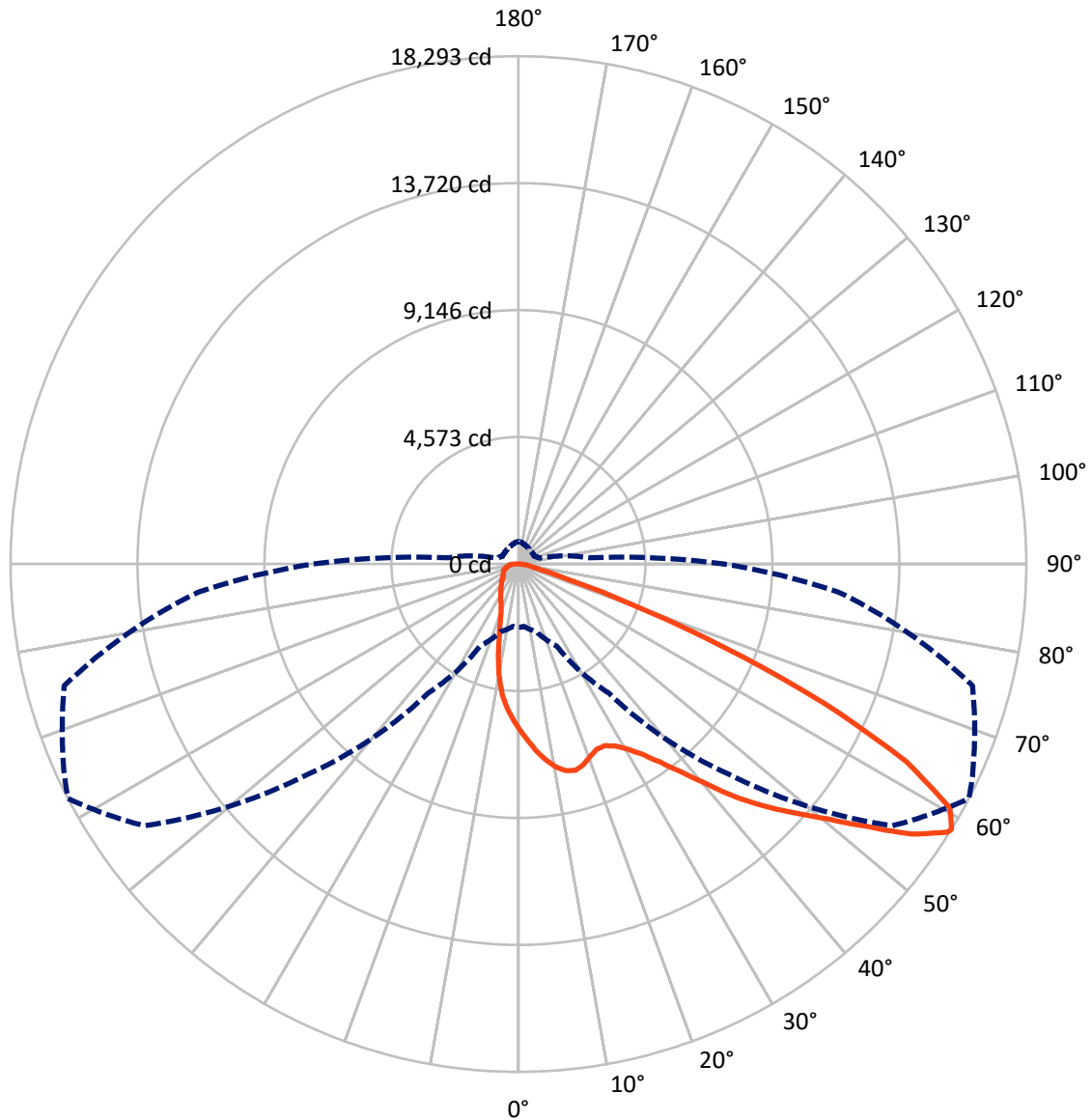
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.2 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	3435.7	0.0	3435.7
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	18941.3	0.0	18941.3
	% Fixture	84.6	0.0	84.6
Total	Lumens	22377.0	0.0	22377.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	534.0	2.4
10°-20°	1347.7	6.0
20°-30°	2184.2	9.8
30°-40°	3487.2	15.6
40°-50°	5072.3	22.7
50°-60°	5307.7	23.7
60°-70°	3235.7	14.5
70°-80°	904.9	4.0
80°-90°	303.3	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°	22377.0	100.0
0°-180°	22377.0	100.0



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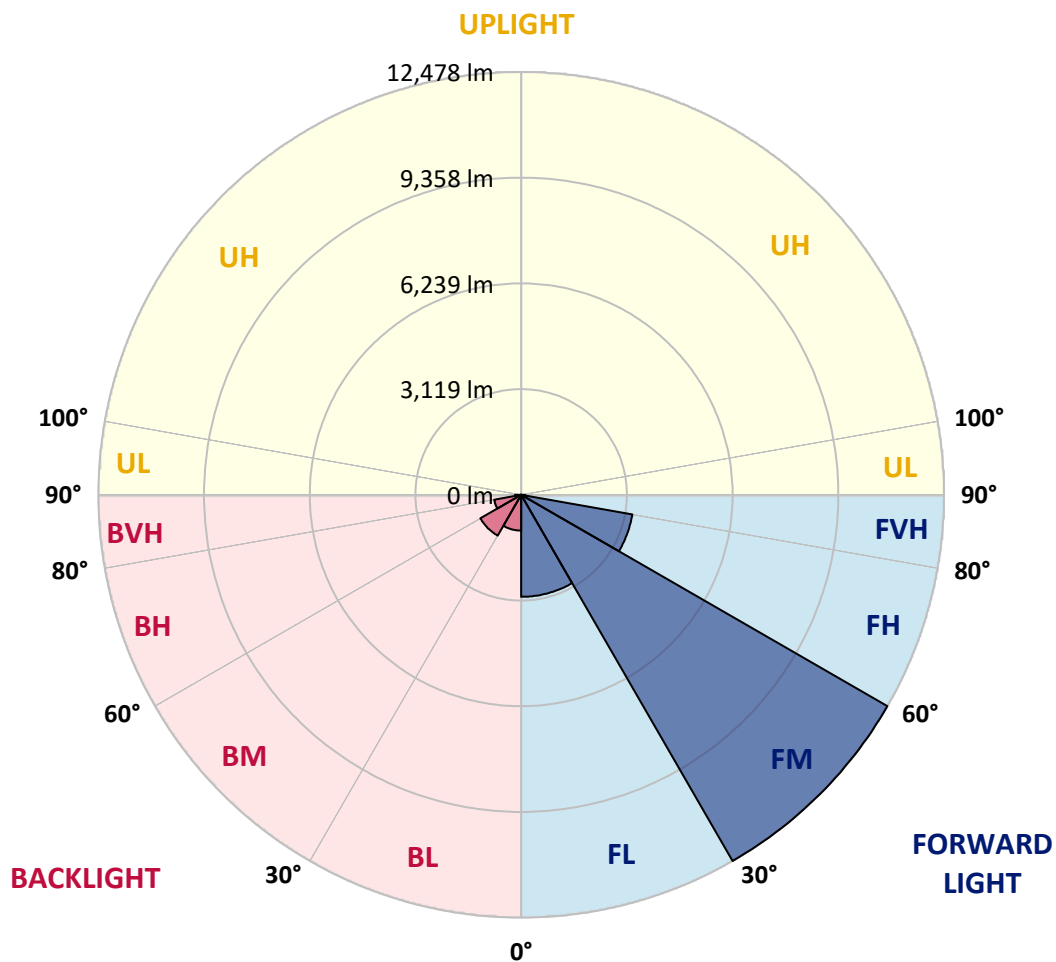
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3009.8	13.5			
FM	(30°-60°)	12477.7	55.8			
FH	(60°-80°)	3331.8	14.9			G2/5000
FVH	(80°-90°)	122.0	0.5			G2/225
BL	(0°-30°)	1056.1	4.7	B3/2500		
BM	(30°-60°)	1389.4	6.2	B2/2500		
BH	(60°-80°)	808.8	3.6	B2/1000		G2/1000
BVH	(80°-90°)	181.3	0.8			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-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°	5974.5	5974.5	5974.5	5974.5	5974.5	5974.5	5974.5	5974.5	5974.5	5974.5	5974.5
2.5°	6781.5	6777.3	6719.9	6682.2	6637.4	6533.9	6430.4	6353.5	6314.4	6164.7	6019.3
5°	7342.3	7325.5	7293.3	7252.8	7194.0	7064.0	6900.3	6759.1	6703.1	6437.4	6170.3
7.5°	7045.8	7072.4	7171.7	7283.5	7401.0	7409.4	7293.3	7125.5	7064.0	6708.7	6317.2
10°	6224.8	6213.7	6338.1	6556.3	6943.7	7326.9	7518.5	7436.0	7371.6	6966.1	6464.0
12.5°	5975.9	5973.1	5994.1	6050.0	6293.4	6819.2	7461.1	7640.2	7617.8	7238.8	6620.6
15°	6051.4	6054.2	6052.8	6059.8	6127.0	6377.3	7140.9	7708.7	7778.6	7508.7	6780.1
17.5°	6293.4	6283.6	6252.8	6219.3	6229.0	6318.6	6795.4	7591.2	7801.0	7749.2	6914.3
20°	6666.8	6666.8	6584.3	6490.6	6429.0	6448.6	6651.4	7389.8	7697.5	7953.4	7015.0
22.5°	7135.3	7142.3	7020.6	6850.0	6710.1	6657.0	6733.9	7240.2	7571.6	8142.2	7104.5
25°	7717.1	7715.7	7538.1	7293.3	7072.4	6945.1	6943.7	7247.2	7532.5	8363.2	7198.2
27.5°	8437.3	8371.6	8164.6	7816.4	7504.5	7310.1	7222.0	7423.4	7615.0	8634.5	7324.1
30°	9249.9	9182.7	8911.4	8463.9	8041.5	7757.6	7612.2	7728.3	7866.7	8979.9	7514.3
32.5°	10054.0	10069.4	9750.5	9245.7	8703.0	8303.1	8087.7	8159.0	8255.5	9402.3	7771.6
35°	11231.6	11230.2	10813.4	10182.7	9538.0	8984.1	8711.4	8749.2	8837.3	9998.1	8132.4
37.5°	12109.9	12095.9	11827.4	11269.3	10543.5	9879.2	9484.8	9490.4	9565.9	10746.3	8607.9
40°	12199.4	12196.6	12195.2	12115.4	11619.0	10992.4	10498.8	10396.7	10427.4	11540.7	9112.8
42.5°	11515.5	11617.6	11911.3	12361.6	12500.0	12171.4	11704.3	11476.3	11409.2	12452.5	9647.0
45°	10540.7	10592.5	11107.1	12119.6	12943.4	13279.0	12928.0	12446.9	12332.2	13339.2	10082.0
47.5°	10087.6	10065.2	10363.1	11466.5	12900.0	14160.1	14185.3	13396.5	13202.1	14104.2	10452.6
50°	9115.6	9086.2	9462.4	10505.7	12427.3	14597.8	15476.1	14431.4	14072.0	14831.4	10788.2
52.5°	7178.6	7150.7	7655.5	8999.5	11370.0	14434.2	16564.2	15701.3	15088.7	15532.1	11101.5
55°	4671.1	4673.9	5155.0	6540.9	9200.9	13480.4	17074.6	17168.3	16481.7	16232.7	11354.6
57.5°	2571.9	2548.1	2890.8	3742.5	6329.7	11314.1	16649.5	18225.6	17867.6	16834.1	11537.9
58°	2286.6	2258.6	2522.9	3257.2	5675.2	10702.9	16435.5	18292.7	18045.2	16933.4	11564.4
60°	1629.3	1581.7	1541.2	1836.3	3269.8	7717.1	15009.0	17857.8	18097.0	17132.0	11539.3
62.5°	1373.4	1318.8	1173.4	1162.2	1539.8	3774.6	11869.3	15683.1	16353.0	16674.7	11133.7
65°	1275.5	1220.9	1029.3	960.8	1044.7	1629.3	7339.5	12109.9	13004.9	15084.5	10112.8
67.5°	1205.5	1141.2	935.6	846.1	862.9	974.8	3114.5	7919.9	8957.6	11763.0	8112.9
70°	1142.6	1071.3	861.5	758.0	744.0	741.2	1216.7	4135.4	5135.4	7697.5	5434.7
72.5°	1071.3	1001.3	795.8	685.3	654.5	601.4	731.4	1709.0	2342.5	3773.2	2490.8
75°	967.8	910.4	723.0	625.1	572.0	488.1	539.8	819.5	1009.7	1444.7	1156.6
77.5°	851.7	805.6	648.9	574.8	503.5	398.6	412.6	555.2	623.7	813.9	669.9
80°	602.8	619.5	566.4	506.3	443.3	321.7	317.5	407.0	447.5	546.8	450.3
82.5°	415.4	427.9	461.5	400.0	358.0	250.3	233.6	282.5	303.5	330.1	218.2
85°	296.5	288.1	320.3	286.7	262.9	159.4	149.6	179.0	191.6	201.4	104.9
87.5°	180.4	179.0	184.6	148.2	137.1	81.1	74.1	85.3	90.9	88.1	50.3
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°	5974.5	5974.5	5974.5	5974.5	5974.5	5974.5	5974.5	5974.5	5974.5	5974.5	5974.5
2.5°	5964.7	5896.2	5746.6	5626.3	5496.2	5396.9	5297.6	5241.7	5180.1	5145.2	5141.0
5°	6030.5	5890.6	5571.7	5275.2	4970.4	4696.3	4427.7	4229.1	4066.9	3974.6	3969.0
7.5°	6103.2	5883.6	5391.3	4878.1	4335.4	3795.6	3318.7	2981.7	2764.9	2664.2	2657.2
10°	6159.1	5854.2	5171.8	4373.2	3513.1	2799.9	2366.3	2167.7	2102.0	2085.2	2082.4
12.5°	6226.2	5833.3	4894.8	3725.7	2685.2	2131.4	1999.9	1987.3	2001.3	2009.7	2011.1
15°	6289.2	5792.7	4521.4	3008.2	2102.0	1904.8	1907.6	1934.2	1962.1	1974.7	1976.1
17.5°	6318.6	5693.4	4030.6	2370.5	1839.1	1802.7	1834.9	1869.8	1895.0	1904.8	1904.8
20°	6318.6	5534.0	3461.4	1920.2	1702.0	1709.0	1748.2	1774.7	1780.3	1771.9	1767.7
22.5°	6292.0	5336.8	2907.5	1675.4	1590.1	1616.7	1647.5	1629.3	1563.6	1513.2	1503.4
25°	6268.2	5103.2	2374.7	1525.8	1492.2	1527.2	1514.6	1390.1	1289.4	1237.7	1229.3
27.5°	6229.0	4820.7	1930.0	1402.7	1397.1	1425.1	1300.6	1180.4	1130.0	1102.0	1096.4
30°	6219.3	4514.4	1615.3	1293.6	1303.4	1264.3	1121.6	1082.5	1071.3	1055.9	1048.9
32.5°	6251.4	4208.2	1418.1	1204.1	1213.9	1085.3	1030.7	1036.3	1034.9	1015.3	1008.3
35°	6339.5	3910.3	1292.2	1123.0	1095.0	972.0	979.0	995.8	995.8	972.0	963.6
37.5°	6493.4	3633.4	1212.5	1054.5	958.0	913.2	931.4	953.8	953.8	937.0	930.0
40°	6657.0	3363.5	1152.4	999.9	871.3	872.7	890.9	907.6	914.6	917.4	911.8
42.5°	6805.2	3083.8	1088.1	941.2	832.1	841.9	850.3	862.9	892.3	911.8	909.0
45°	6891.9	2802.7	1018.1	868.5	805.6	809.7	807.0	829.3	864.3	893.7	893.7
47.5°	6971.7	2571.9	960.8	795.8	779.0	779.0	770.6	793.0	825.1	860.1	862.9
50°	7047.2	2422.3	920.2	739.8	745.4	741.2	738.4	759.4	802.8	844.7	851.7
52.5°	7124.1	2371.9	883.9	699.3	710.5	704.9	707.7	737.0	786.0	829.3	836.3
55°	7231.8	2404.1	846.1	671.3	676.9	675.5	686.7	720.2	763.6	807.0	809.7
57.5°	7364.6	2521.5	813.9	650.3	644.7	653.1	671.3	703.5	745.4	797.2	801.4
58°	7391.2	2549.5	808.3	644.7	637.7	650.3	668.5	699.3	742.6	797.2	801.4
60°	7431.8	2648.8	794.4	633.5	614.0	636.3	658.7	689.5	737.0	804.2	812.5
62.5°	7236.0	2668.4	790.2	620.9	588.8	616.8	643.3	678.3	731.4	827.9	846.1
65°	6557.7	2467.0	760.8	600.0	567.8	601.4	629.3	669.9	748.2	899.3	907.6
67.5°	5264.1	2048.8	689.5	567.8	544.0	583.2	618.1	669.9	755.2	910.4	916.0
70°	3619.4	1539.8	600.0	532.8	516.1	560.8	614.0	685.3	731.4	861.5	844.7
72.5°	1890.8	1071.3	525.8	492.3	482.5	541.2	654.5	669.9	703.5	804.2	787.4
75°	952.4	728.6	462.9	446.1	444.7	534.2	732.8	644.7	674.1	756.6	793.0
77.5°	562.2	570.6	412.6	402.8	409.8	521.7	734.2	619.5	640.5	696.5	735.6
80°	384.6	471.3	373.4	370.6	376.2	479.7	676.9	588.8	601.4	658.7	700.7
82.5°	216.8	260.1	327.3	345.4	342.6	393.0	584.6	535.6	551.0	779.0	823.7
85°	104.9	156.6	274.1	323.1	292.3	261.5	475.5	475.5	479.7	558.0	565.0
87.5°	39.2	69.9	184.6	255.9	204.2	156.6	323.1	337.0	374.8	386.0	394.4
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)