

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: P270338

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270338
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-02-D-UNV-AFL-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11894.6 lumens
Efficiency: N/A
Efficacy: 92.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G1

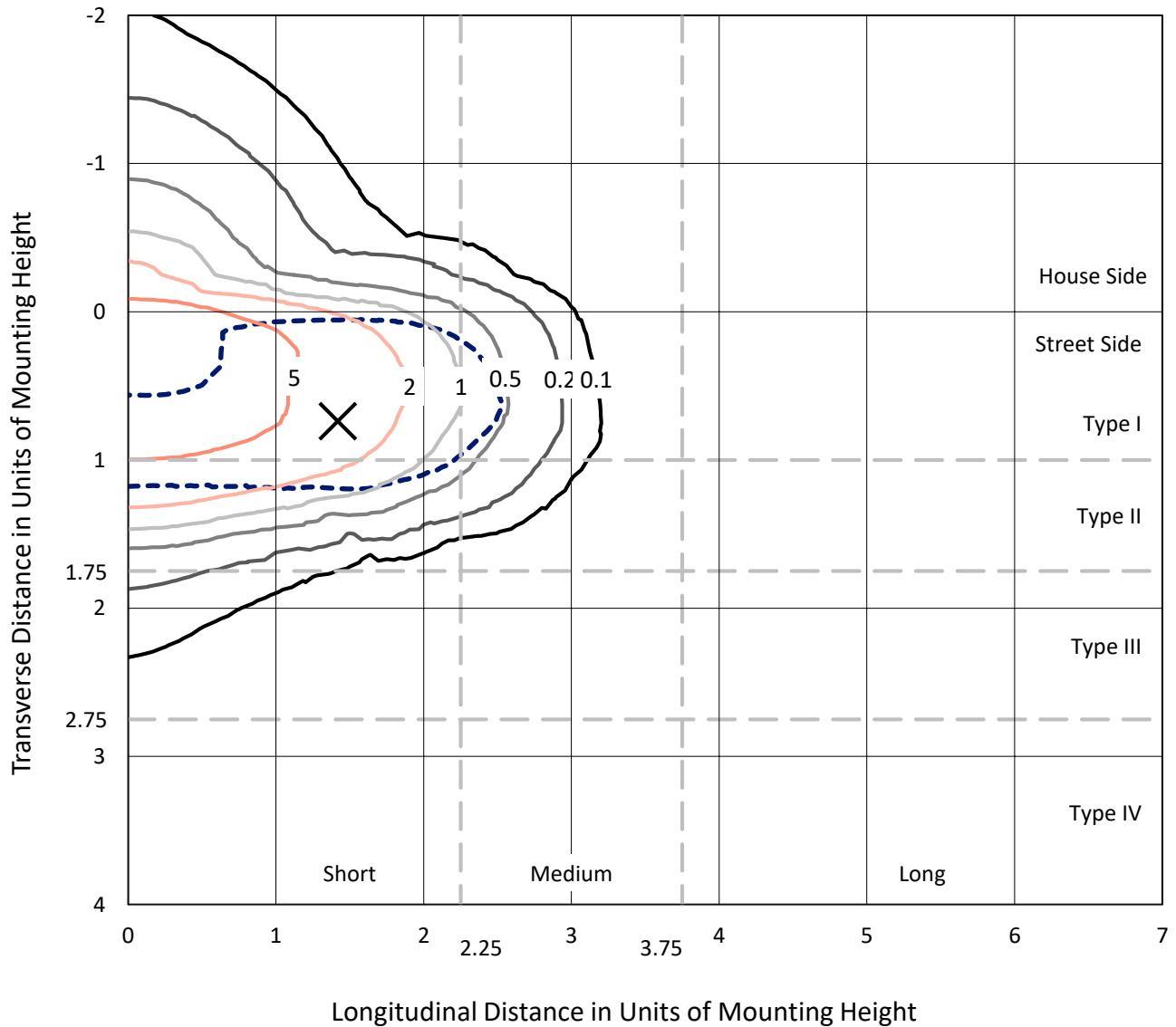
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

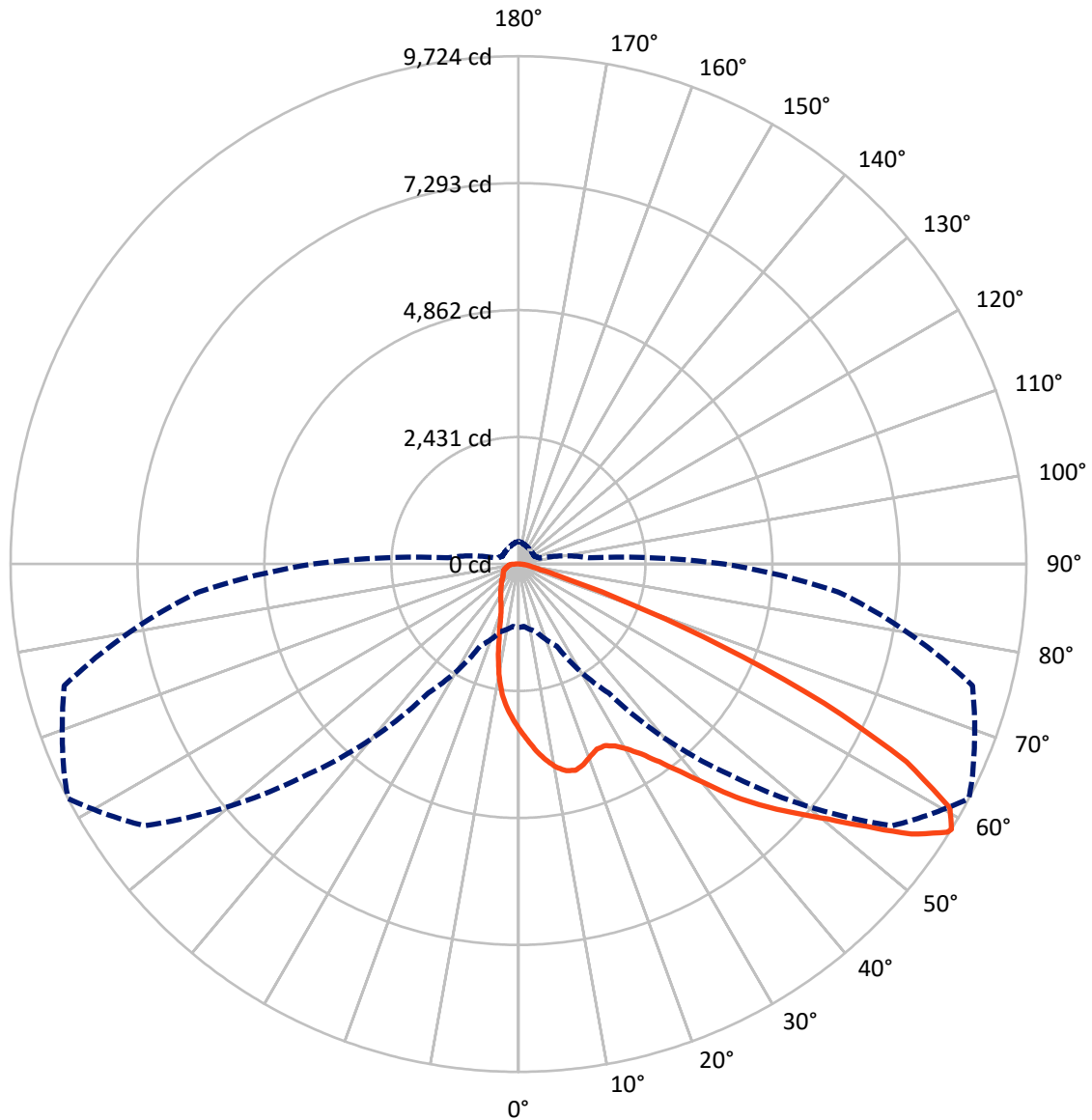
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.3 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	1826.3	0.0	1826.3
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	10068.3	0.0	10068.3
	% Fixture	84.6	0.0	84.6
Total	Lumens	11894.6	0.0	11894.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	283.9	2.4
10°-20°	716.4	6.0
20°-30°	1161.0	9.8
30°-40°	1853.6	15.6
40°-50°	2696.2	22.7
50°-60°	2821.3	23.7
60°-70°	1720.0	14.5
70°-80°	481.0	4.0
80°-90°	161.2	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°	11894.6	100.0
0°-180°	11894.6	100.0

Coefficient of Utilization



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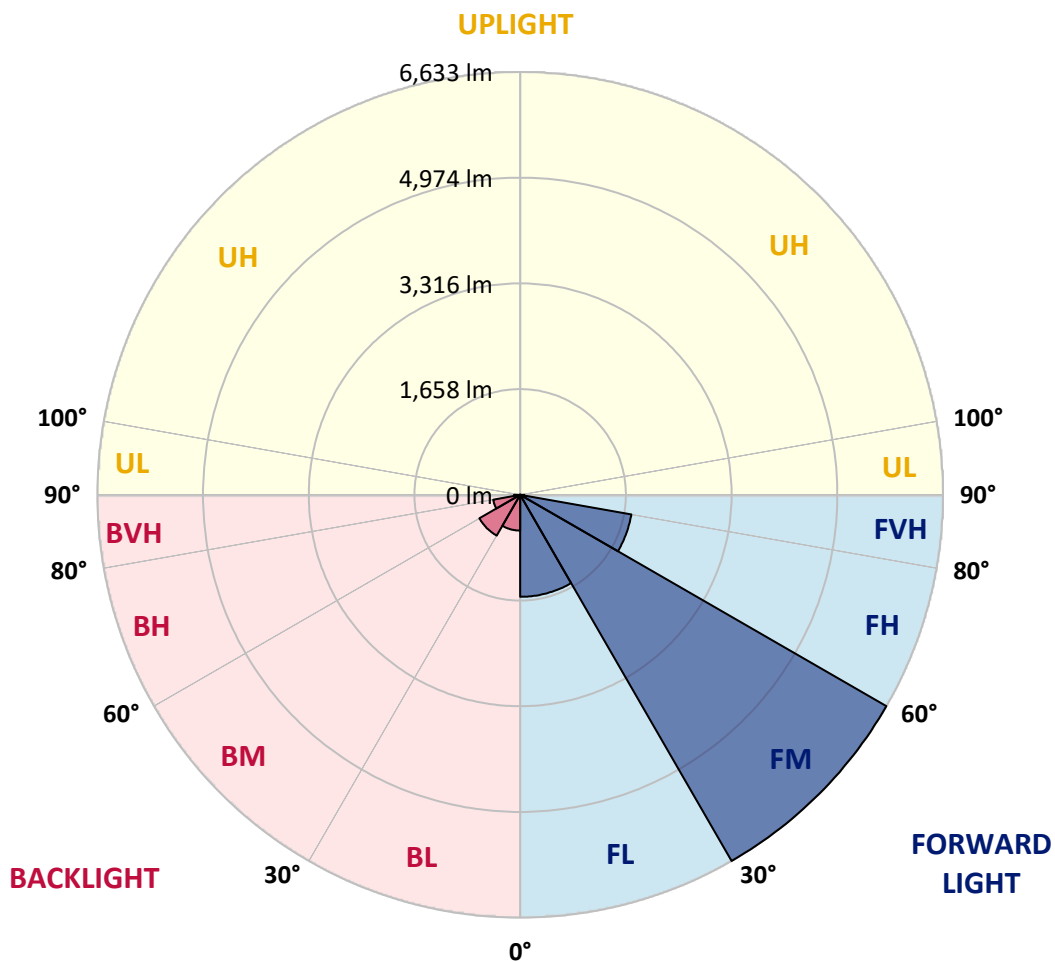
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1599.9	13.5			
FM	(30°-60°)	6632.6	55.8			
FH	(60°-80°)	1771.0	14.9			G1/1800
FVH	(80°-90°)	64.9	0.5			G1/100
BL	(0°-30°)	561.4	4.7	B2/1000		
BM	(30°-60°)	738.6	6.2	B1/1000		
BH	(60°-80°)	429.9	3.6	B1/500		G1/500
BVH	(80°-90°)	96.4	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	3175.8	3175.8	3175.8	3175.8	3175.8	3175.8	3175.8	3175.8	3175.8	3175.8	3175.8
2.5°	3604.7	3602.6	3572.0	3551.9	3528.2	3473.1	3418.1	3377.3	3356.3	3276.8	3199.6
5°	3902.7	3894.0	3876.7	3855.3	3824.1	3754.8	3667.9	3592.9	3563.0	3421.9	3279.8
7.5°	3745.3	3759.3	3812.0	3871.5	3934.0	3938.4	3876.7	3787.6	3754.8	3566.0	3358.0
10°	3308.8	3302.9	3369.1	3485.1	3691.0	3894.6	3996.5	3952.6	3918.4	3702.9	3435.9
12.5°	3176.5	3175.0	3186.2	3215.9	3345.3	3624.8	3965.9	4061.1	4049.3	3847.8	3519.2
15°	3216.7	3218.2	3217.4	3221.1	3256.9	3389.8	3795.8	4097.6	4134.8	3991.3	3604.0
17.5°	3345.3	3340.1	3323.6	3305.9	3311.1	3358.7	3612.2	4035.1	4146.7	4119.2	3675.3
20°	3543.8	3543.8	3499.8	3450.1	3417.4	3427.8	3535.5	3928.1	4091.6	4227.7	3728.9
22.5°	3792.9	3796.4	3731.7	3641.1	3566.8	3538.6	3579.4	3848.6	4024.8	4328.0	3776.5
25°	4102.0	4101.3	4006.9	3876.7	3759.3	3691.7	3691.0	3852.2	4003.9	4445.5	3826.2
27.5°	4484.9	4449.9	4339.9	4154.8	3989.1	3885.7	3838.8	3946.0	4047.8	4589.7	3893.2
30°	4916.9	4881.1	4736.9	4499.0	4274.6	4123.6	4046.2	4107.9	4181.6	4773.4	3994.3
32.5°	5344.2	5352.5	5183.0	4914.5	4626.1	4413.6	4299.1	4336.9	4388.2	4997.8	4131.0
35°	5970.1	5969.4	5748.0	5412.6	5069.9	4775.6	4630.7	4650.6	4697.4	5314.6	4322.9
37.5°	6437.1	6429.6	6286.9	5990.3	5604.4	5251.3	5041.6	5044.6	5084.8	5712.2	4575.5
40°	6484.7	6483.2	6482.3	6439.9	6176.0	5843.0	5580.6	5526.5	5542.7	6134.4	4843.9
42.5°	6121.1	6175.4	6331.4	6570.8	6644.5	6469.8	6221.4	6100.3	6064.5	6619.3	5128.0
45°	5603.0	5630.4	5904.0	6442.3	6880.1	7058.5	6871.9	6616.1	6555.2	7090.5	5359.1
47.5°	5362.2	5350.1	5508.5	6095.1	6857.0	7526.9	7540.3	7121.0	7017.6	7497.2	5556.0
50°	4845.5	4829.8	5029.8	5584.4	6605.7	7759.5	8226.4	7671.0	7479.9	7883.6	5734.5
52.5°	3815.8	3801.0	4069.3	4783.7	6043.7	7672.6	8804.7	8346.1	8020.4	8256.1	5901.1
55°	2482.9	2484.4	2740.1	3476.8	4890.8	7165.6	9076.0	9125.9	8760.9	8628.6	6035.6
57.5°	1367.1	1354.5	1536.6	1989.3	3364.6	6014.1	8850.1	9688.0	9497.6	8948.2	6133.0
58°	1215.4	1200.6	1341.1	1731.4	3016.7	5689.1	8736.3	9723.6	9592.0	9000.9	6147.1
60°	866.1	840.8	819.3	976.1	1738.0	4102.0	7978.0	9492.4	9619.5	9106.6	6133.7
62.5°	730.1	700.9	623.8	617.8	818.4	2006.5	6309.2	8336.5	8692.4	8863.4	5918.2
65°	678.0	648.9	547.2	510.6	555.3	866.1	3901.2	6437.1	6912.7	8018.2	5375.5
67.5°	640.9	606.6	497.3	449.7	458.7	518.1	1655.5	4209.8	4761.5	6252.7	4312.5
70°	607.3	569.4	458.0	402.9	395.4	393.9	646.8	2198.2	2729.7	4091.6	2888.8
72.5°	569.4	532.2	423.0	364.3	348.0	319.6	388.7	908.5	1245.2	2005.6	1324.0
75°	514.4	483.9	384.4	332.4	304.0	259.4	287.0	435.6	536.7	768.0	614.8
77.5°	452.7	428.2	344.9	305.6	267.6	211.9	219.2	295.2	331.6	432.7	356.1
80°	320.3	329.3	301.1	269.1	235.6	170.9	168.7	216.3	238.0	290.7	239.4
82.5°	220.9	227.5	245.2	212.5	190.4	133.0	124.1	150.1	161.3	175.4	116.1
85°	157.7	153.2	170.1	152.4	139.7	84.7	79.5	95.1	101.9	107.1	55.8
87.5°	95.8	95.1	98.2	78.8	72.9	43.1	39.3	45.4	48.2	46.8	26.8
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°	3175.8	3175.8	3175.8	3175.8	3175.8	3175.8	3175.8	3175.8	3175.8	3175.8	3175.8
2.5°	3170.6	3134.1	3054.5	2990.6	2921.6	2868.7	2815.9	2786.3	2753.6	2734.9	2732.7
5°	3205.5	3131.1	2961.7	2804.1	2642.1	2496.3	2353.6	2248.0	2161.9	2112.8	2109.8
7.5°	3244.1	3127.4	2865.8	2593.0	2304.5	2017.6	1764.1	1584.9	1469.6	1416.2	1412.5
10°	3274.0	3111.9	2749.1	2324.5	1867.3	1488.3	1257.8	1152.3	1117.3	1108.4	1106.9
12.5°	3309.5	3100.7	2601.9	1980.5	1427.2	1132.9	1063.1	1056.3	1063.9	1068.3	1069.1
15°	3343.0	3079.1	2403.3	1599.1	1117.3	1012.5	1013.9	1028.1	1043.0	1049.7	1050.4
17.5°	3358.7	3026.4	2142.5	1260.1	977.5	958.2	975.3	994.0	1007.3	1012.5	1012.5
20°	3358.7	2941.6	1839.9	1020.7	904.8	908.5	929.2	943.4	946.4	941.9	939.6
22.5°	3344.5	2836.8	1545.5	890.6	845.2	859.4	875.7	866.1	831.1	804.3	799.1
25°	3332.0	2712.6	1262.3	811.0	793.3	811.8	805.2	738.9	685.3	657.9	653.4
27.5°	3311.1	2562.4	1025.9	745.7	742.7	757.5	691.3	627.5	600.6	585.8	582.8
30°	3305.9	2399.6	858.6	687.7	692.9	672.0	596.1	575.4	569.4	561.4	557.6
32.5°	3323.0	2236.9	753.8	640.0	645.3	576.9	547.8	550.8	550.1	539.7	536.0
35°	3369.8	2078.5	686.9	597.0	582.1	516.6	520.4	529.3	529.3	516.6	512.3
37.5°	3451.6	1931.4	644.5	560.5	509.2	485.4	495.1	507.1	507.1	498.1	494.3
40°	3538.6	1787.8	612.6	531.5	463.2	463.9	473.5	482.5	486.3	487.7	484.6
42.5°	3617.4	1639.1	578.4	500.3	442.3	447.5	451.9	458.7	474.2	484.6	483.2
45°	3663.5	1489.7	541.1	461.6	428.2	430.4	428.9	440.8	459.5	475.1	475.1
47.5°	3705.8	1367.1	510.6	423.0	414.1	414.1	409.5	421.6	438.6	457.1	458.7
50°	3745.9	1287.5	489.1	393.3	396.2	393.9	392.5	403.7	426.8	449.1	452.7
52.5°	3786.9	1260.9	469.9	371.7	377.6	374.7	376.2	391.8	417.8	440.8	444.5
55°	3844.0	1277.8	449.7	356.8	359.9	359.1	365.0	382.9	405.9	428.9	430.4
57.5°	3914.8	1340.4	432.7	345.7	342.8	347.1	356.8	374.0	396.2	423.7	425.9
58°	3928.8	1355.3	429.7	342.8	339.0	345.7	355.3	371.7	394.7	423.7	425.9
60°	3950.3	1408.1	422.3	336.8	326.4	338.2	350.1	366.5	391.8	427.5	431.9
62.5°	3846.4	1418.5	420.0	330.0	313.0	327.8	342.0	360.5	388.7	440.1	449.7
65°	3485.8	1311.3	404.3	318.9	301.8	319.6	334.4	356.1	397.7	478.0	482.5
67.5°	2798.1	1089.0	366.5	301.8	289.2	309.9	328.6	356.1	401.5	483.9	486.9
70°	1923.9	818.4	318.9	283.2	274.3	298.1	326.4	364.3	388.7	458.0	449.1
72.5°	1005.1	569.4	279.6	261.6	256.5	287.6	348.0	356.1	374.0	427.5	418.5
75°	506.3	387.3	246.0	237.2	236.4	284.0	389.5	342.8	358.3	402.3	421.6
77.5°	298.9	303.3	219.2	214.1	217.7	277.2	390.3	329.3	340.5	370.2	391.0
80°	204.5	250.5	198.4	197.0	200.0	254.9	359.9	313.0	319.6	350.1	372.4
82.5°	115.3	138.2	173.9	183.7	182.1	208.9	310.8	284.8	292.8	414.1	437.8
85°	55.8	83.3	145.7	171.8	155.3	139.0	252.8	252.8	254.9	296.6	300.4
87.5°	20.8	37.2	98.2	136.1	108.5	83.3	171.8	179.1	199.2	205.2	209.7
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)