

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: P195376

Luminaire Tested: **NAV-AF-04-D-UNV-T3R-7060**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195376
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-7060
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24815 lumens
Efficiency: N/A
Efficacy: 110.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B3 - U0 - G4

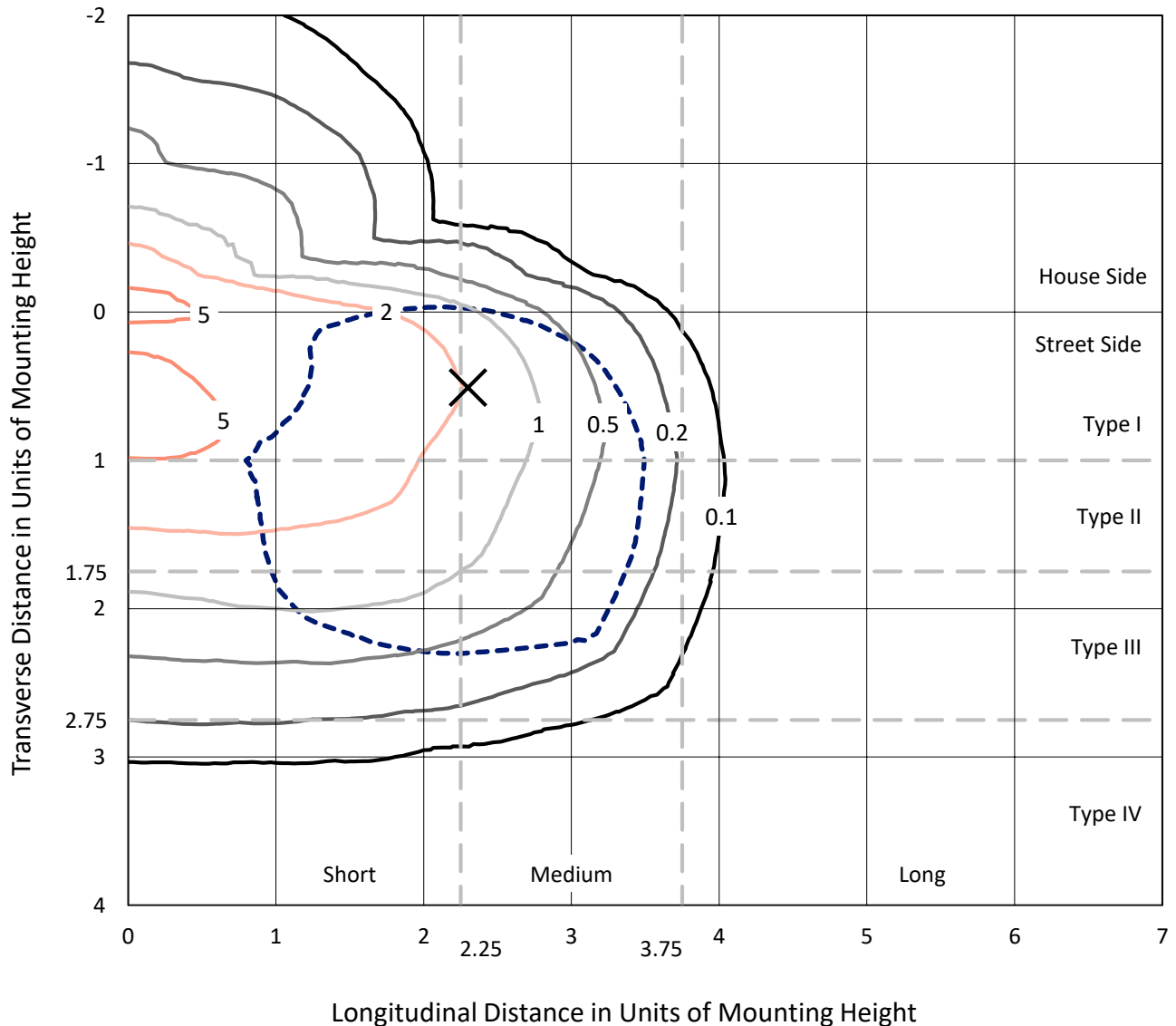
Input Watts (W): 225
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

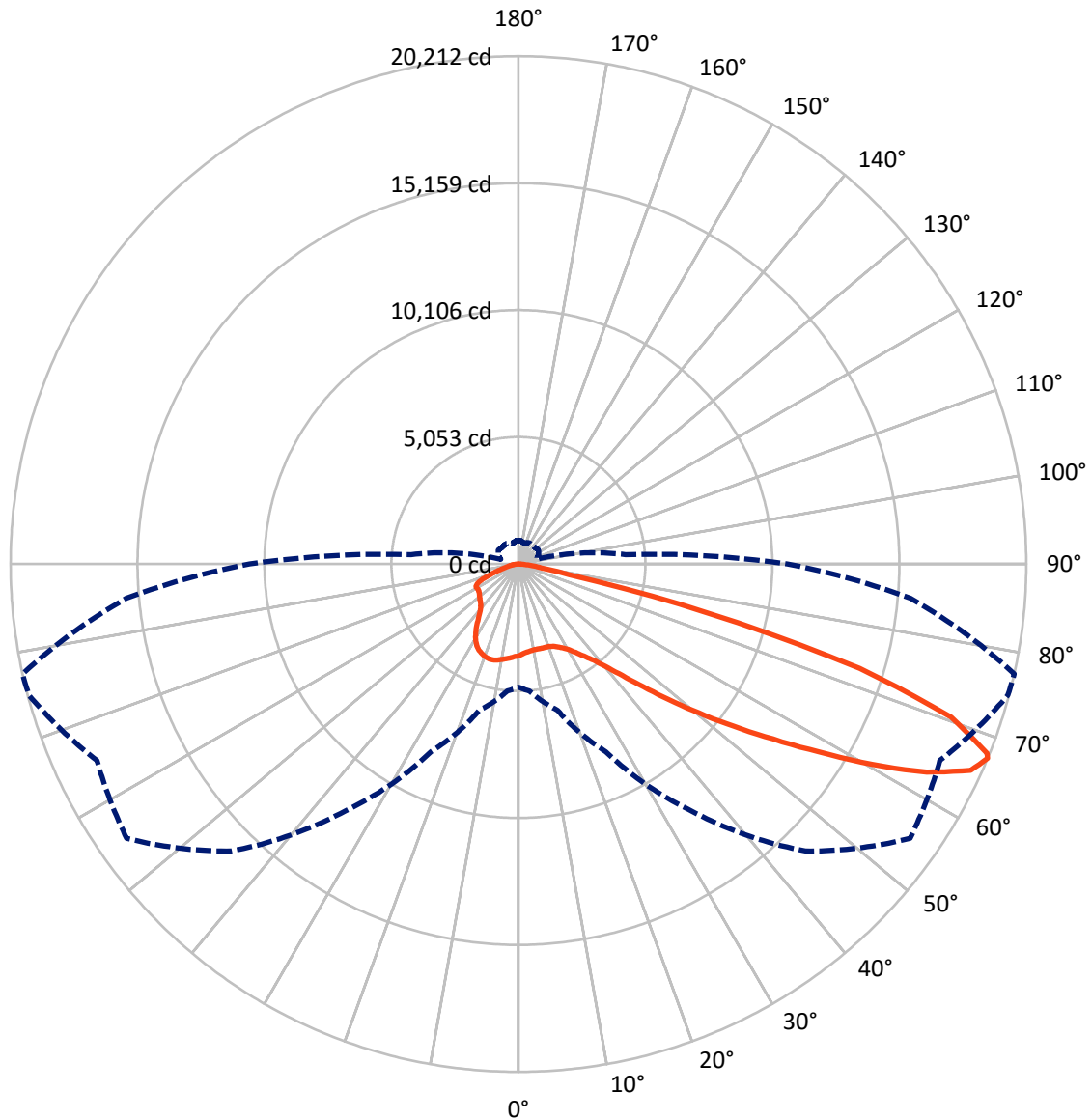
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7 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
House Side	Lumens	4264.5	0.0	4264.5
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	20550.6	0.0	20550.6
	% Fixture	82.8	0.0	82.8
Total	Lumens	24815.0	0.0	24815.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	325.3	1.3
10°-20°	900.8	3.6
20°-30°	1530.5	6.2
30°-40°	2448.5	9.9
40°-50°	3769.5	15.2
50°-60°	5229.8	21.1
60°-70°	6976.2	28.1
70°-80°	3320.0	13.4
80°-90°	314.4	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°	24815.0	100.0
0°-180°	24815.0	100.0



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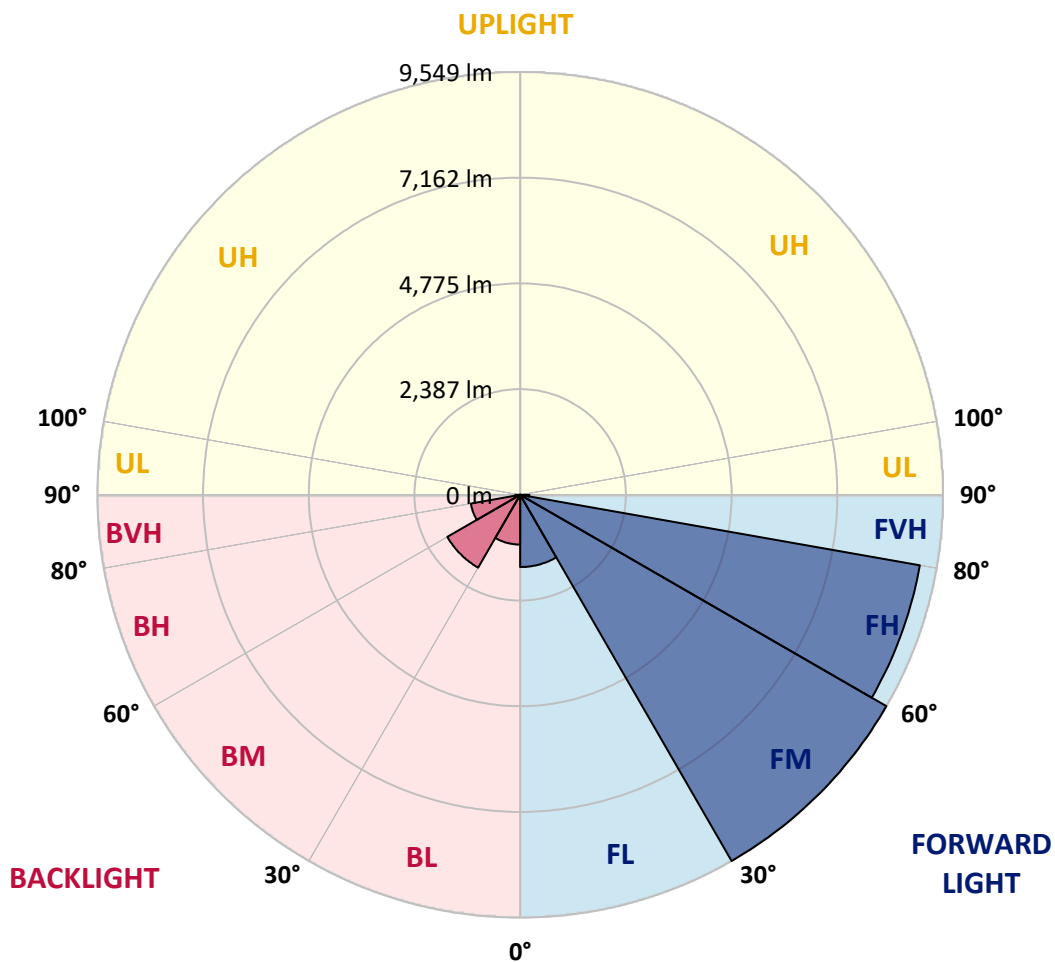
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1631.8	6.6			
FM	(30°-60°)	9549.1	38.5			
FH	(60°-80°)	9165.5	36.9			G4/12000
FVH	(80°-90°)	204.2	0.8			G2/225
BL	(0°-30°)	1124.8	4.5	B3/2500		
BM	(30°-60°)	1898.8	7.7	B2/2500		
BH	(60°-80°)	1130.7	4.6	B3/2500		G3/2500
BVH	(80°-90°)	110.2	0.4			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	3652.1	3652.1	3652.1	3652.1	3652.1	3652.1	3652.1	3652.1	3652.1	3652.1	3652.1
2.5°	3274.8	3290.1	3291.7	3336.1	3356.1	3406.7	3461.9	3511.0	3553.9	3569.3	3596.9
5°	2946.5	2946.5	2951.1	2980.3	3037.0	3118.3	3233.4	3359.1	3491.1	3523.3	3604.6
7.5°	2774.7	2777.8	2780.9	2810.0	2854.5	2926.6	3041.6	3213.4	3432.8	3486.5	3629.1
10°	2790.1	2785.5	2770.1	2764.0	2782.4	2828.4	2928.1	3104.5	3383.7	3466.5	3673.6
12.5°	3030.9	3021.7	2971.1	2897.5	2830.0	2813.1	2882.1	3049.3	3360.7	3466.5	3748.7
15°	3443.5	3449.6	3349.9	3196.6	3020.2	2900.5	2891.3	3029.4	3353.0	3475.7	3836.2
17.5°	3980.4	3983.4	3845.4	3623.0	3330.0	3083.1	2954.2	3029.4	3353.0	3484.9	3920.5
20°	4551.0	4529.5	4373.0	4093.9	3713.5	3336.1	3069.2	3047.8	3362.2	3498.7	4000.3
22.5°	5040.3	5020.3	4856.2	4563.2	4127.6	3635.2	3224.2	3109.1	3412.8	3555.5	4112.3
25°	5468.2	5480.5	5321.0	4991.2	4540.2	3972.7	3455.8	3250.2	3518.7	3658.3	4250.3
27.5°	5988.2	5965.2	5781.1	5466.7	4965.1	4322.4	3745.7	3428.2	3644.4	3782.5	4419.0
30°	6589.5	6578.7	6330.2	6006.6	5432.9	4713.5	4032.5	3619.9	3808.6	3952.8	4630.7
32.5°	7319.6	7318.0	7051.1	6653.9	5959.0	5155.3	4371.5	3882.2	4047.9	4193.6	4911.4
35°	8146.3	8144.8	7868.7	7344.1	6564.9	5644.6	4770.3	4201.2	4343.9	4497.3	5245.8
37.5°	8720.0	8710.8	8566.6	8057.4	7235.2	6213.7	5268.8	4630.7	4679.8	4851.6	5649.2
40°	8830.4	8885.6	9009.9	8709.2	7966.9	6845.6	5768.8	5092.4	5138.4	5359.3	6156.9
42.5°	8710.8	8782.9	9195.5	9279.8	8698.5	7611.0	6394.7	5732.0	5790.3	6064.9	6753.6
45°	8606.5	8669.4	9186.3	9595.8	9421.0	8445.4	7175.4	6512.8	6623.2	6963.7	7434.6
47.5°	8428.5	8486.8	9005.3	9652.6	9833.6	9249.2	8115.6	7451.5	7641.7	8054.3	8210.7
50°	8419.3	8445.4	8758.3	9462.4	9976.2	9859.6	9157.1	8549.7	8841.2	9316.7	9069.7
52.5°	8186.2	8368.7	8652.5	9158.7	9979.3	10215.5	10183.3	9753.8	10203.2	10729.3	10011.5
55°	6759.7	6969.9	8299.7	9009.9	9960.9	10520.7	11120.5	11034.6	11737.1	12290.8	11066.8
57.5°	6311.8	6400.8	7281.2	9054.4	10114.3	11025.4	12057.7	12410.4	13491.8	14096.2	12332.2
60°	6189.1	6282.7	7077.2	9075.8	10529.9	11944.2	13329.2	13964.2	15554.9	16196.0	13769.4
62.5°	6052.6	6173.8	7092.6	9095.8	11260.1	13303.2	15016.5	15650.0	17673.1	18245.2	15116.2
65°	5653.8	5814.9	6808.8	8970.0	12059.2	15008.8	17246.7	17407.8	19423.2	19786.8	15929.1
67°	4897.6	5074.0	6029.6	8243.0	11985.6	16157.7	19030.6	18507.5	20167.2	20211.6	15665.3
67.5°	4658.3	4840.9	5765.8	7940.8	11775.4	16308.0	19346.6	18659.4	20161.0	20111.9	15419.9
70°	3136.7	3342.3	4083.1	5830.2	9445.5	15177.5	19269.9	18191.6	18838.8	18275.9	13247.9
72.5°	1556.9	1563.0	2037.0	3193.5	5722.8	10885.8	16074.8	15562.5	15271.1	14208.1	9721.6
75°	750.1	763.9	961.7	1411.1	2412.8	5620.1	10962.5	10500.8	8940.9	7741.4	4865.4
77.5°	572.1	585.9	747.0	918.8	1006.2	1833.0	5429.9	4388.4	2590.7	2069.2	1371.3
80°	441.8	467.8	630.4	705.6	665.7	734.7	1707.2	1343.7	1007.7	924.9	679.5
82.5°	345.1	360.5	535.3	535.3	460.2	492.4	794.5	776.1	625.8	564.5	365.1
85°	243.9	274.6	431.0	398.8	302.2	305.2	475.5	455.6	322.1	259.2	142.6
87.5°	108.9	139.6	306.8	260.8	161.1	124.2	194.8	167.2	127.3	98.2	66.0
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°	3652.1	3652.1	3652.1	3652.1	3652.1	3652.1	3652.1	3652.1	3652.1	3652.1	3652.1
2.5°	3627.6	3652.1	3690.5	3713.5	3744.1	3756.4	3768.7	3790.2	3807.0	3802.4	3794.8
5°	3661.3	3702.7	3750.3	3765.6	3765.6	3750.3	3741.1	3742.6	3738.0	3734.9	3725.7
7.5°	3710.4	3767.2	3800.9	3785.6	3738.0	3678.2	3621.4	3587.7	3555.5	3535.5	3541.7
10°	3779.4	3842.3	3843.8	3776.4	3662.9	3532.5	3420.5	3348.4	3279.4	3248.7	3257.9
12.5°	3879.1	3942.0	3888.3	3742.6	3543.2	3339.2	3133.7	2984.9	2851.4	2819.2	2810.0
15°	3986.5	4035.6	3915.9	3670.5	3371.4	3035.5	2690.4	2468.0	2319.2	2293.1	2283.9
17.5°	4080.1	4107.7	3902.1	3541.7	3099.9	2570.7	2168.9	2018.6	1987.9	2003.2	2003.2
20°	4162.9	4153.7	3842.3	3342.3	2672.0	2055.4	1822.2	1820.7	1862.1	1900.5	1903.5
22.5°	4267.2	4195.1	3747.2	3046.2	2161.2	1714.9	1675.0	1714.9	1760.9	1803.8	1808.4
25°	4391.4	4241.1	3619.9	2624.4	1737.9	1556.9	1573.7	1607.5	1636.6	1670.4	1671.9
27.5°	4515.7	4276.4	3440.4	2129.0	1507.8	1455.6	1474.0	1487.8	1495.5	1517.0	1517.0
30°	4659.9	4304.0	3181.2	1705.7	1401.9	1366.7	1355.9	1349.8	1355.9	1385.1	1386.6
32.5°	4840.9	4353.1	2826.9	1463.3	1352.9	1303.8	1248.6	1217.9	1239.4	1291.5	1300.7
35°	5046.4	4411.4	2402.0	1366.7	1336.0	1273.1	1171.9	1124.3	1132.0	1179.5	1187.2
37.5°	5304.1	4486.5	1983.3	1343.7	1352.9	1270.0	1136.6	1069.1	1035.4	1036.9	1035.4
40°	5633.9	4561.7	1652.0	1349.8	1389.7	1277.7	1119.7	1013.9	943.3	946.4	952.5
42.5°	5979.0	4610.8	1441.8	1368.2	1434.2	1288.4	1113.6	960.2	898.8	951.0	998.5
45°	6382.4	4597.0	1332.9	1385.1	1467.9	1293.0	1090.6	954.1	903.4	1059.9	1148.9
47.5°	6845.6	4537.2	1271.6	1392.7	1477.1	1291.5	1073.7	974.0	941.8	1213.3	1314.5
50°	7348.7	4443.6	1222.5	1380.5	1472.5	1285.4	1092.1	998.5	957.1	1247.0	1325.3
52.5°	7899.4	4357.7	1171.9	1352.9	1449.5	1267.0	1115.1	987.8	914.2	1148.9	1208.7
55°	8551.3	4337.8	1115.1	1305.3	1411.1	1247.0	1102.8	954.1	866.6	1018.5	1055.3
57.5°	9296.7	4462.0	1041.5	1247.0	1359.0	1207.1	1073.7	935.7	849.8	926.5	946.4
60°	10243.1	4736.6	963.3	1185.7	1294.6	1147.3	1047.6	940.3	854.4	912.6	917.2
62.5°	10982.4	4983.5	892.7	1110.5	1208.7	1075.2	1020.0	944.9	868.2	931.1	923.4
65°	11250.8	4862.3	805.3	998.5	1087.5	995.5	981.7	947.9	868.2	941.8	924.9
67°	10700.2	4284.1	722.4	886.6	972.5	924.9	944.9	935.7	852.8	940.3	911.1
67.5°	10437.9	4080.1	701.0	868.2	941.8	903.4	935.7	929.5	848.2	937.2	903.4
70°	8608.0	2926.6	592.1	728.6	788.4	796.1	878.9	889.6	811.4	880.4	819.1
72.5°	6124.7	1831.4	510.8	564.5	636.6	681.0	802.2	836.0	762.3	765.4	714.8
75°	3030.9	983.2	455.6	435.6	495.4	567.5	699.4	762.3	690.2	638.1	621.2
77.5°	1023.1	556.8	385.0	351.3	385.0	455.6	579.8	665.7	608.9	539.9	529.2
80°	529.2	404.9	300.6	282.2	303.7	352.8	454.0	553.7	520.0	523.0	431.0
82.5°	329.8	247.0	216.3	214.7	230.1	270.0	334.4	449.4	446.4	381.9	277.6
85°	153.4	142.6	138.0	142.6	147.3	153.4	217.8	320.6	339.0	205.5	182.5
87.5°	64.4	62.9	55.2	59.8	66.0	64.4	87.4	136.5	190.2	128.8	118.1
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)