

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: P196049

Luminaire Tested: **NAV-AF-05-D-UNV-RW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196049
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24161)
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-RW
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 31432.2 lumens
Efficiency: N/A
Efficacy: 112.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B5 - U0 - G5

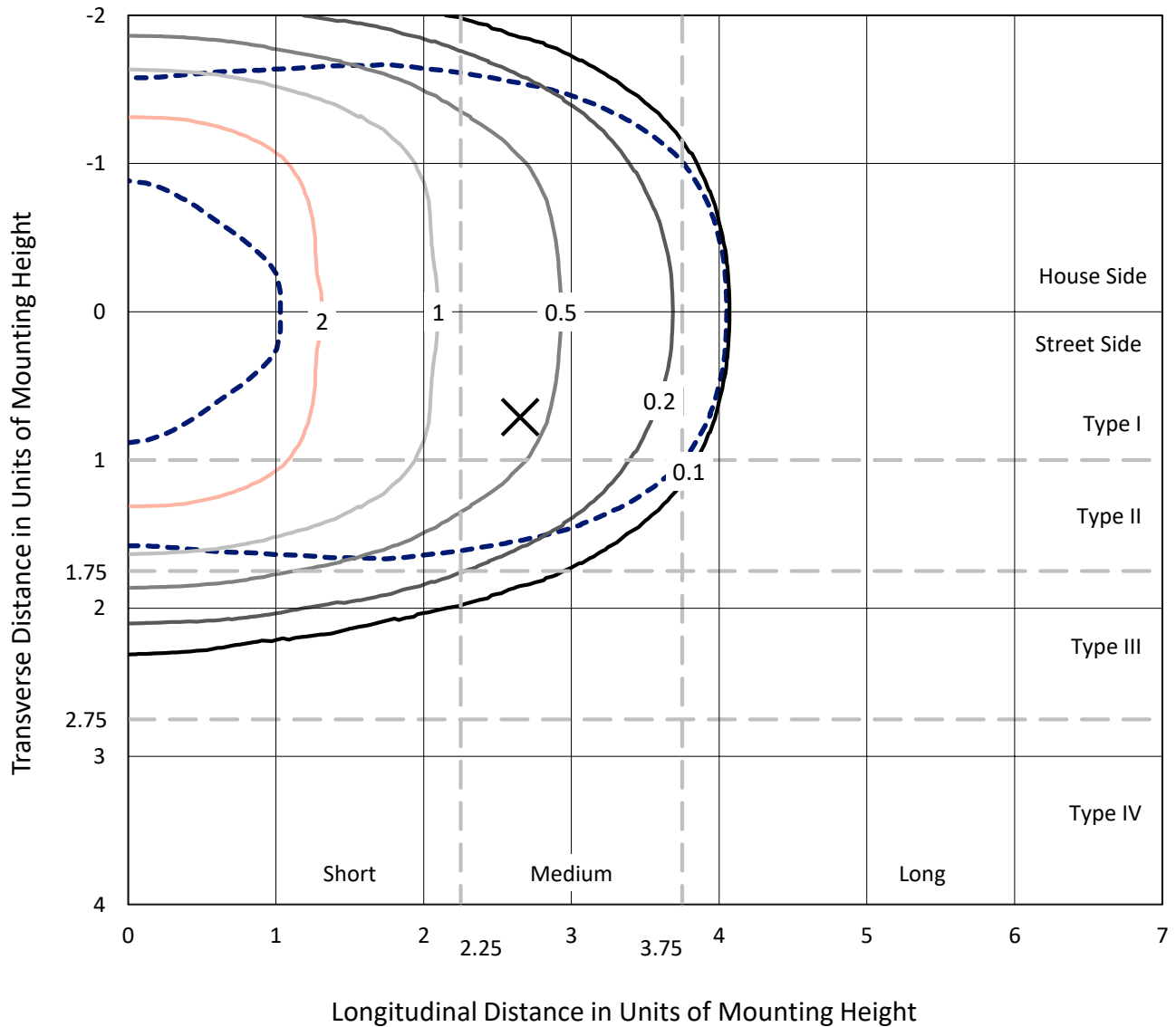
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

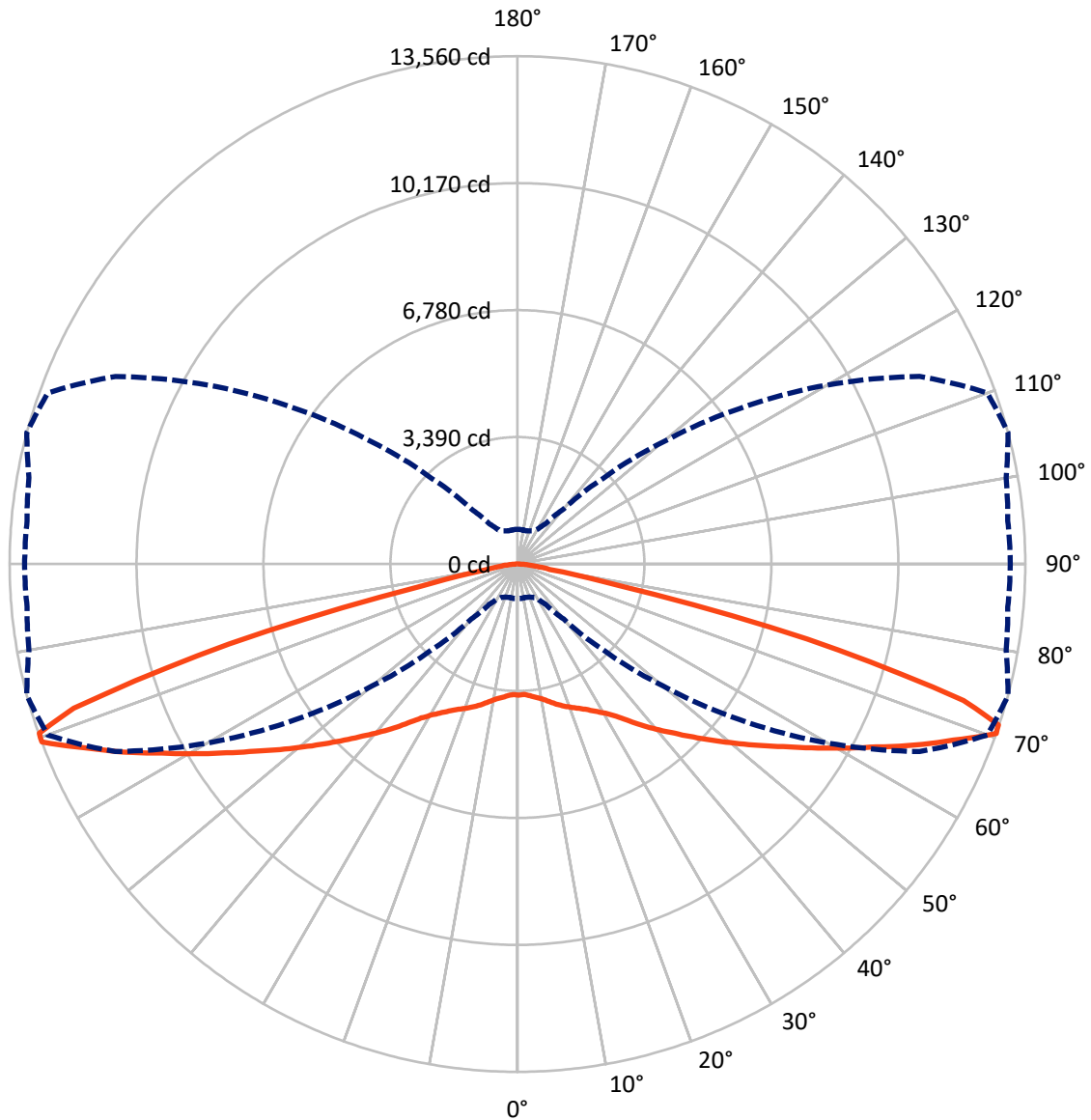
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 3.9 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	15716.1	0.0	15716.1
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	15716.1	0.0	15716.1
	% Fixture	50.0	0.0	50.0
Total	Lumens	31432.2	0.0	31432.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	335.7	1.1
10°-20°	1041.2	3.3
20°-30°	1955.6	6.2
30°-40°	3444.9	11.0
40°-50°	5709.3	18.2
50°-60°	7942.5	25.3
60°-70°	7497.9	23.9
70°-80°	3202.4	10.2
80°-90°	302.6	1.0
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°	31432.2	100.0
0°-180°	31432.2	100.0



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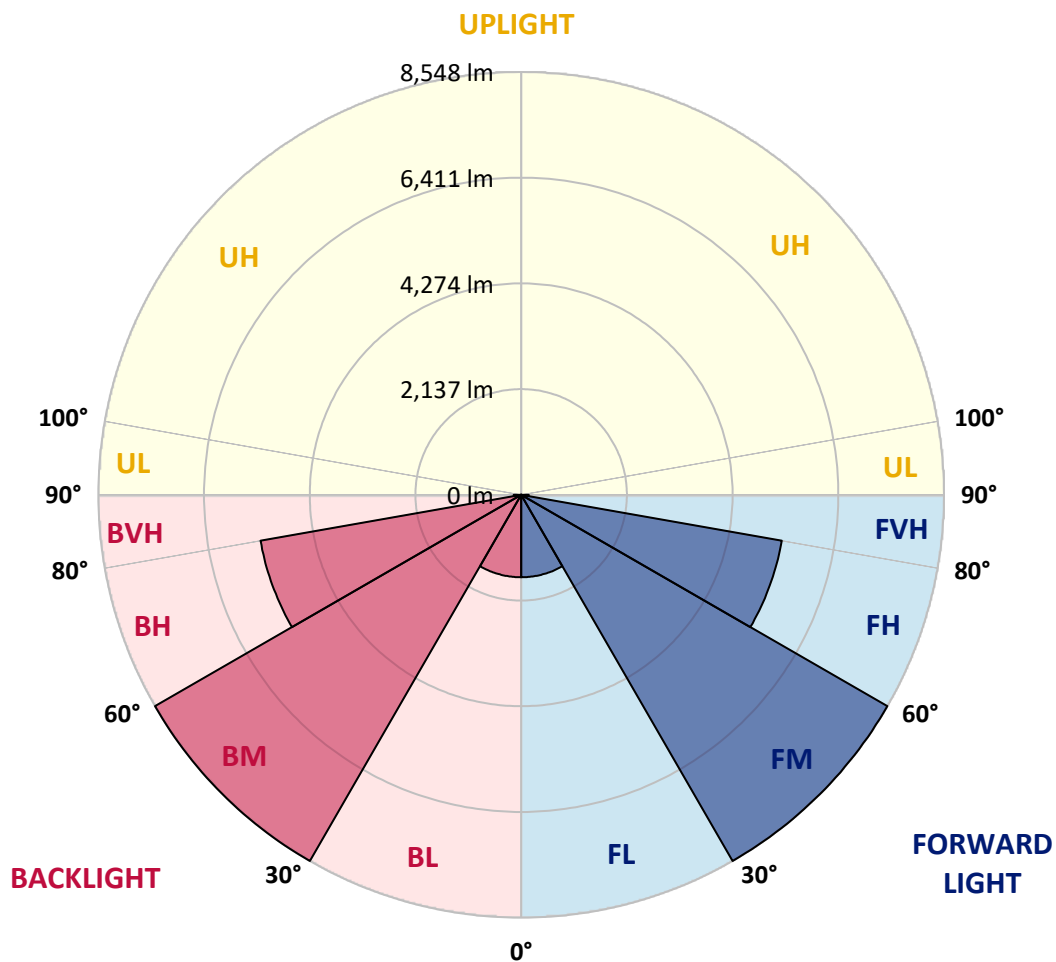
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1666.3	5.3			
FM	(30°-60°)	8548.4	27.2			
FH	(60°-80°)	5350.1	17.0			G3/7500
FVH	(80°-90°)	151.3	0.5			G2/225
BL	(0°-30°)	1666.3	5.3	B3/2500		
BM	(30°-60°)	8548.4	27.2	B5		
BH	(60°-80°)	5350.1	17.0	B5		G5
BVH	(80°-90°)	151.3	0.5			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B5-U0-G5

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3500.3	3500.3	3500.3	3500.3	3500.3	3500.3	3500.3	3500.3	3500.3	3500.3	3500.3
2.5°	3521.9	3520.0	3521.9	3516.1	3518.0	3516.1	3516.1	3508.2	3508.2	3504.2	3498.3
5°	3482.5	3486.5	3486.5	3486.5	3492.4	3492.4	3500.3	3502.3	3508.2	3514.0	3518.0
7.5°	3417.6	3419.5	3425.5	3429.3	3441.2	3457.0	3472.7	3490.4	3506.2	3525.9	3547.6
10°	3362.4	3366.3	3376.1	3386.1	3407.7	3427.4	3455.0	3482.5	3510.2	3543.6	3577.1
12.5°	3332.9	3338.8	3354.6	3370.3	3403.8	3429.3	3466.8	3510.2	3547.6	3579.1	3616.5
15°	3336.8	3338.8	3360.4	3382.1	3429.3	3464.8	3518.0	3569.2	3614.5	3650.0	3693.4
17.5°	3393.9	3397.8	3419.5	3451.0	3496.3	3541.7	3598.7	3651.9	3713.0	3754.4	3805.6
20°	3506.2	3512.1	3535.7	3569.2	3618.5	3665.7	3724.9	3780.0	3843.0	3892.2	3943.5
22.5°	3651.9	3661.8	3687.4	3728.8	3778.1	3835.1	3896.2	3953.3	4012.4	4061.6	4105.0
25°	3847.0	3858.8	3886.4	3927.7	3976.9	4038.0	4101.1	4160.1	4221.2	4258.6	4294.1
27.5°	4109.0	4128.6	4158.2	4191.6	4235.0	4300.0	4359.1	4408.3	4467.4	4508.8	4532.5
30°	4461.5	4489.1	4512.7	4548.2	4579.8	4648.7	4696.0	4735.3	4780.7	4804.3	4810.2
32.5°	4892.9	4918.6	4942.2	4967.8	5011.1	5074.1	5119.5	5141.1	5164.8	5160.8	5139.1
35°	5379.5	5399.1	5412.9	5458.3	5529.2	5570.5	5604.0	5611.9	5615.8	5574.5	5533.0
37.5°	5891.6	5915.2	5927.1	5998.0	6065.0	6112.2	6128.0	6145.7	6133.8	6065.0	5990.1
40°	6445.1	6470.7	6506.2	6567.2	6646.0	6691.3	6711.0	6709.0	6699.2	6618.4	6496.4
42.5°	6988.7	7020.3	7049.8	7156.2	7221.2	7298.0	7307.9	7305.9	7284.2	7191.7	7049.8
45°	7449.6	7487.1	7548.1	7666.3	7770.7	7863.3	7900.8	7914.6	7892.9	7794.4	7632.8
47.5°	7829.9	7855.4	7932.3	8076.1	8210.0	8345.9	8420.7	8473.9	8472.0	8401.1	8229.7
50°	8089.8	8119.4	8214.0	8375.5	8542.9	8702.4	8850.2	8970.4	9027.4	8976.3	8816.7
52.5°	8164.7	8202.1	8326.2	8519.2	8714.3	8928.9	9149.6	9362.4	9490.3	9521.8	9397.7
55°	7849.5	7890.9	8072.1	8340.0	8661.1	8978.2	9313.0	9616.5	9880.4	10002.5	9953.2
57.5°	6931.6	6961.2	7191.7	7538.3	7997.2	8554.7	9118.1	9673.5	10126.6	10443.7	10498.9
60°	5481.9	5519.3	5771.4	6137.8	6659.8	7364.9	8152.9	9062.9	9951.3	10678.2	11038.6
62.5°	3699.2	3724.9	3967.1	4302.0	4873.2	5552.8	6431.3	7583.6	8850.2	10148.3	11164.7
65°	1942.2	1942.2	2105.6	2340.1	2795.1	3403.8	4304.0	5485.8	6992.7	8613.9	10313.7
67.5°	1126.7	1124.7	1162.2	1215.4	1359.1	1605.3	2101.8	2970.4	4396.5	6283.6	8217.9
70°	929.8	923.8	917.9	917.9	939.6	977.0	1071.5	1309.9	1916.6	3240.3	5056.4
71°	888.3	884.4	868.7	862.8	872.6	892.3	933.6	1044.0	1361.1	2210.1	3776.0
72.5°	839.1	829.3	805.7	795.8	797.8	805.7	817.4	860.8	957.3	1256.7	2153.0
75°	764.2	740.6	711.1	697.3	691.4	689.5	689.5	701.2	722.9	758.3	882.5
77.5°	677.6	644.2	612.6	598.8	588.9	583.1	579.1	571.2	567.3	583.1	628.4
80°	573.2	537.8	512.2	504.2	498.4	486.5	470.8	455.0	445.2	453.1	480.6
82.5°	443.2	407.7	411.6	413.7	403.8	384.1	368.4	350.7	332.9	329.0	342.8
85°	352.6	334.8	323.0	348.6	326.9	303.3	281.7	252.2	210.7	173.4	189.1
87.5°	151.7	153.6	220.7	332.9	291.5	234.4	195.0	157.5	100.5	74.9	76.8
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	3500.3	3500.3	3500.3	3500.3	3500.3	3500.3	3500.3	3500.3
2.5°	3496.3	3496.3	3490.4	3486.5	3486.5	3486.5	3482.5	3484.5
5°	3520.0	3524.0	3527.9	3525.9	3531.8	3537.7	3535.7	3533.8
7.5°	3559.4	3571.2	3583.0	3588.9	3596.8	3604.7	3606.6	3600.8
10°	3598.7	3622.4	3640.2	3655.9	3665.7	3673.6	3679.6	3677.6
12.5°	3648.0	3681.5	3713.0	3744.5	3766.2	3778.1	3789.8	3785.9
15°	3728.8	3766.2	3805.6	3847.0	3880.5	3898.2	3915.9	3912.0
17.5°	3839.1	3872.6	3904.1	3945.4	3986.8	4006.5	4026.2	4024.3
20°	3976.9	4002.6	4020.3	4043.9	4083.3	4105.0	4122.7	4116.9
22.5°	4134.6	4142.4	4144.4	4152.3	4183.8	4209.4	4233.1	4238.9
25°	4305.9	4300.0	4288.2	4282.3	4304.0	4331.5	4361.0	4368.9
27.5°	4518.7	4498.9	4469.4	4445.7	4451.7	4487.2	4520.6	4528.5
30°	4786.6	4741.3	4678.2	4632.9	4625.1	4662.4	4697.9	4709.8
32.5°	5091.8	5030.8	4944.1	4875.2	4845.6	4879.2	4910.7	4928.4
35°	5454.3	5387.4	5282.9	5194.2	5147.0	5168.7	5223.8	5243.5
37.5°	5883.7	5791.1	5674.9	5562.6	5483.8	5487.8	5546.8	5570.5
40°	6358.5	6224.5	6076.7	5936.9	5822.6	5814.8	5868.0	5885.6
42.5°	6852.8	6681.5	6508.1	6324.9	6183.1	6157.6	6226.5	6228.4
45°	7384.7	7164.0	6949.3	6736.6	6588.9	6543.6	6610.5	6618.4
47.5°	7952.0	7676.2	7422.1	7191.7	7032.1	6961.2	7026.1	7038.0
50°	8542.9	8257.3	7961.8	7705.8	7518.6	7431.9	7508.8	7516.6
52.5°	9127.9	8858.0	8564.6	8271.1	8044.6	7946.1	8036.7	8064.2
55°	9716.9	9456.9	9181.1	8887.6	8602.0	8515.3	8613.9	8643.3
57.5°	10329.5	10079.3	9829.1	9533.7	9256.0	9124.0	9230.4	9271.7
60°	11005.1	10784.5	10548.2	10250.7	9976.8	9823.3	9913.8	9961.1
62.5°	11668.9	11623.6	11408.9	11099.6	10753.0	10599.3	10676.1	10709.7
65°	11724.0	12458.8	12448.9	12141.7	11657.1	11399.0	11420.7	11436.5
67.5°	10233.0	11919.1	12996.6	13093.1	12553.3	12149.6	12102.2	12112.1
70°	7244.8	9559.3	11846.2	13347.2	13559.9	13246.7	13144.3	13160.1
71°	5804.9	8202.1	10719.5	12738.5	13544.2	13453.5	13396.5	13437.8
72.5°	3705.1	6043.3	8493.7	10908.5	12454.8	12898.1	12963.0	12988.7
75°	1345.4	2600.1	4400.4	6305.3	7991.4	9151.5	9789.7	9841.0
77.5°	722.9	931.7	1439.9	2151.0	2702.5	2998.0	3033.5	3047.3
80°	531.8	616.5	705.2	805.7	868.7	880.5	858.9	813.6
82.5°	376.2	425.4	460.9	496.3	522.0	500.3	415.6	317.1
85°	218.6	240.3	260.0	277.7	281.7	266.0	175.3	143.8
87.5°	86.6	94.5	92.6	104.4	100.5	92.6	68.9	59.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)