

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: P196054

Luminaire Tested: **NAV-AF-04-D-UNV-RW-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196054
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-04-D-UNV-RW-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 27976.7 lumens
Efficiency: N/A
Efficacy: 108.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B4 - U0 - G4

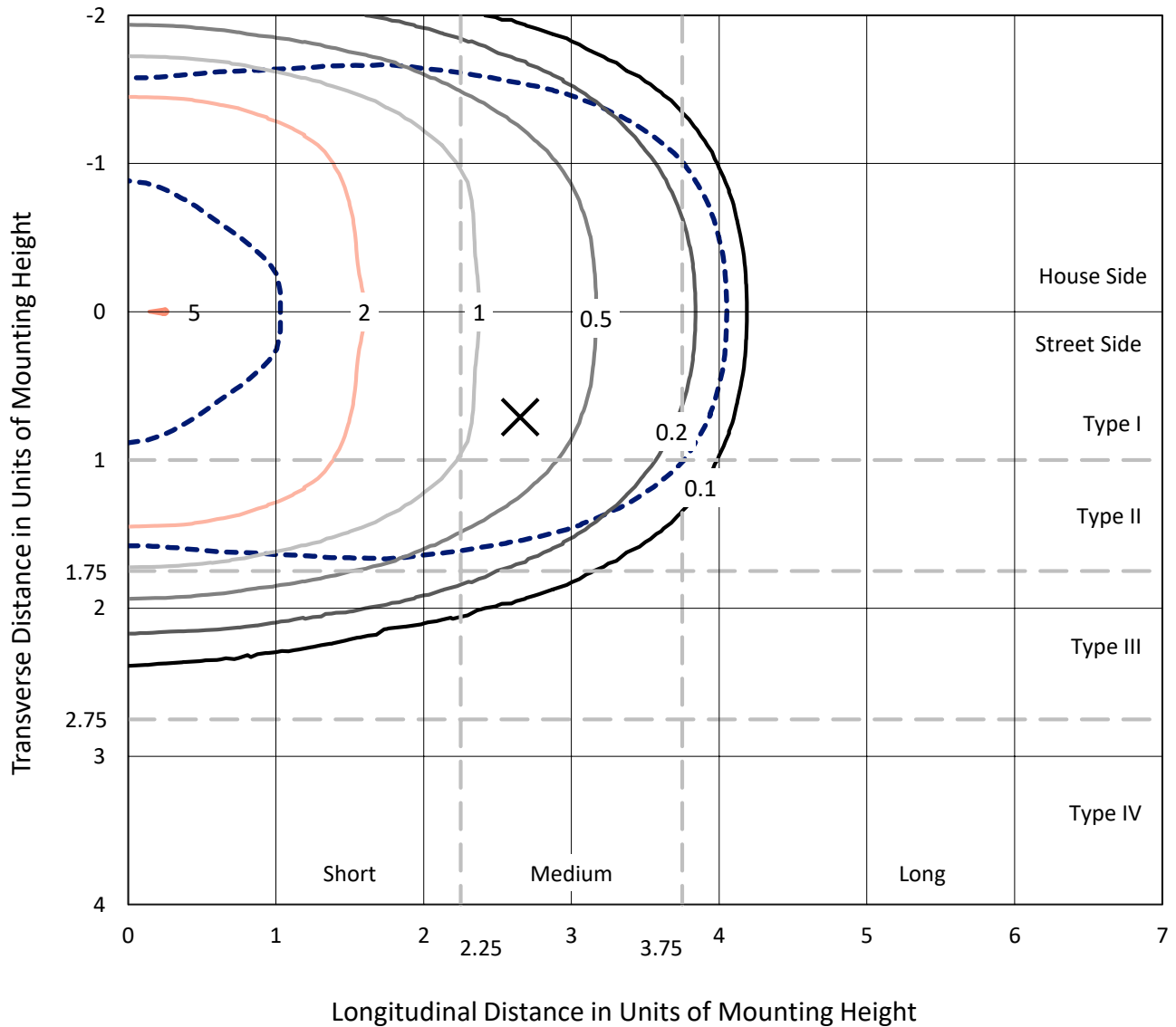
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

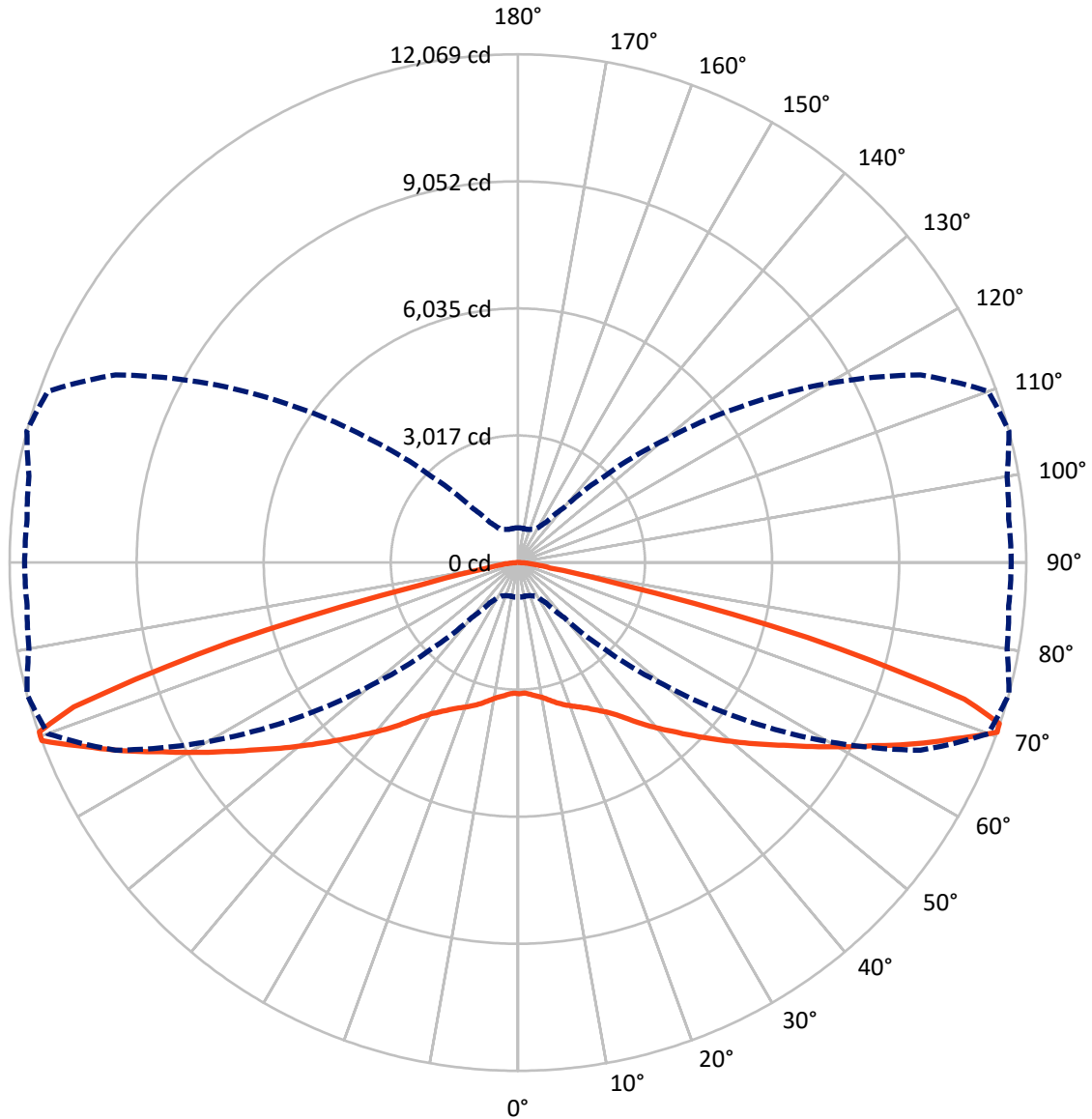
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 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	13988.3	0.0	13988.3
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	13988.3	0.0	13988.3
	% Fixture	50.0	0.0	50.0
Total	Lumens	27976.7	0.0	27976.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	298.8	1.1
10°-20°	926.8	3.3
20°-30°	1740.6	6.2
30°-40°	3066.2	11.0
40°-50°	5081.7	18.2
50°-60°	7069.3	25.3
60°-70°	6673.6	23.9
70°-80°	2850.3	10.2
80°-90°	269.3	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°	27976.7	100.0
0°-180°	27976.7	100.0

Coefficient of Utilization



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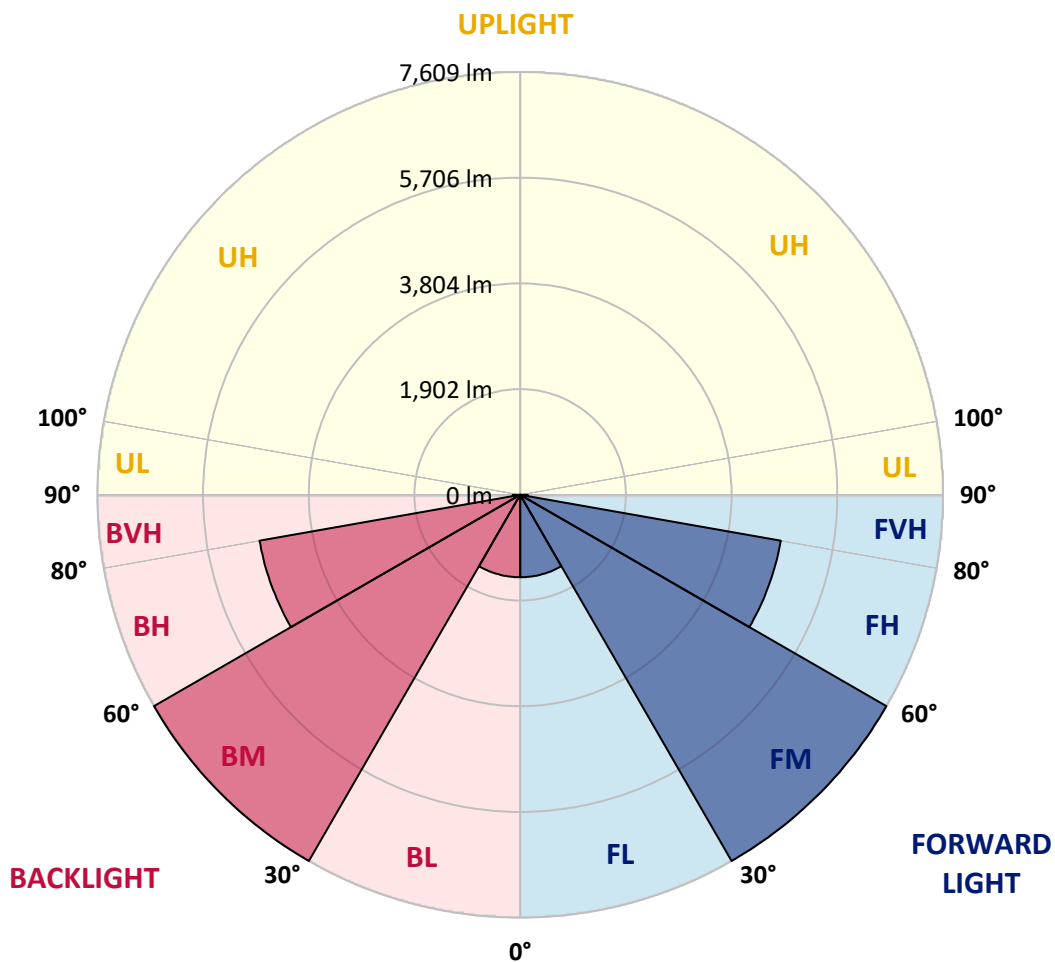
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1483.1	5.3			
FM	(30°-60°)	7608.6	27.2			
FH	(60°-80°)	4762.0	17.0			G2/5000
FVH	(80°-90°)	134.7	0.5			G2/225
BL	(0°-30°)	1483.1	5.3	B3/2500		
BM	(30°-60°)	7608.6	27.2	B4/8500		
BH	(60°-80°)	4762.0	17.0	B4/5000		G4/5000
BVH	(80°-90°)	134.7	0.5			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3115.5	3115.5	3115.5	3115.5	3115.5	3115.5	3115.5	3115.5	3115.5	3115.5	3115.5
2.5°	3134.7	3133.0	3134.7	3129.5	3131.3	3129.5	3129.5	3122.5	3122.5	3119.0	3113.8
5°	3099.7	3103.2	3103.2	3103.2	3108.4	3108.4	3115.5	3117.2	3122.5	3127.8	3131.3
7.5°	3041.8	3043.6	3048.9	3052.4	3062.9	3076.9	3090.9	3106.7	3120.7	3138.3	3157.5
10°	2992.7	2996.2	3005.0	3013.8	3033.0	3050.6	3075.2	3099.7	3124.2	3154.1	3183.8
12.5°	2966.5	2971.7	2985.8	2999.8	3029.6	3052.4	3085.6	3124.2	3157.5	3185.6	3218.9
15°	2969.9	2971.7	2991.0	3010.2	3052.4	3083.9	3131.3	3176.9	3217.2	3248.7	3287.3
17.5°	3020.8	3024.4	3043.6	3071.6	3112.0	3152.3	3203.2	3250.4	3304.8	3341.7	3387.2
20°	3120.7	3126.0	3147.0	3176.9	3220.7	3262.7	3315.4	3364.4	3420.5	3464.3	3509.9
22.5°	3250.4	3259.2	3282.0	3318.9	3362.6	3413.5	3467.9	3518.7	3571.3	3615.1	3653.7
25°	3424.0	3434.6	3459.1	3495.9	3539.7	3594.1	3650.2	3702.8	3757.2	3790.4	3822.1
27.5°	3657.3	3674.7	3701.0	3730.9	3769.5	3827.3	3879.8	3923.7	3976.3	4013.1	4034.2
30°	3971.1	3995.5	4016.6	4048.2	4076.3	4137.6	4179.7	4214.8	4255.1	4276.1	4281.4
32.5°	4355.0	4377.8	4398.8	4421.6	4460.2	4516.3	4556.6	4575.9	4596.9	4593.5	4574.1
35°	4788.0	4805.6	4817.9	4858.2	4921.3	4958.1	4987.9	4995.0	4998.4	4961.6	4924.8
37.5°	5243.9	5264.9	5275.5	5338.6	5398.2	5440.3	5454.3	5470.0	5459.5	5398.2	5331.5
40°	5736.5	5759.3	5790.9	5845.2	5915.4	5955.7	5973.2	5971.5	5962.7	5890.9	5782.1
42.5°	6220.5	6248.5	6274.8	6369.5	6427.3	6495.7	6504.4	6502.7	6483.5	6401.0	6274.8
45°	6630.7	6664.0	6718.3	6823.5	6916.5	6998.8	7032.2	7044.4	7025.1	6937.6	6793.7
47.5°	6969.1	6991.9	7060.2	7188.2	7307.4	7428.4	7495.1	7542.3	7540.6	7477.5	7324.9
50°	7200.4	7226.7	7310.9	7454.7	7603.7	7745.8	7877.2	7984.1	8035.0	7989.5	7847.5
52.5°	7267.1	7300.4	7410.9	7582.7	7756.2	7947.4	8143.7	8333.1	8447.0	8475.0	8364.7
55°	6986.5	7023.4	7184.7	7423.1	7709.0	7991.2	8289.3	8559.2	8794.2	8902.8	8859.1
57.5°	6169.6	6195.9	6401.0	6709.5	7118.1	7614.2	8115.7	8610.1	9013.3	9295.6	9344.7
60°	4879.2	4912.5	5137.0	5463.1	5927.7	6555.3	7256.6	8066.6	8857.3	9504.2	9825.0
62.5°	3292.6	3315.4	3531.0	3829.0	4337.5	4942.3	5724.2	6749.9	7877.2	9032.6	9937.3
65°	1728.7	1728.7	1874.1	2082.8	2487.8	3029.6	3830.7	4882.7	6223.9	7666.8	9179.9
67.5°	1002.8	1001.1	1034.4	1081.8	1209.7	1428.9	1870.7	2643.8	3913.2	5592.8	7314.4
70°	827.6	822.2	817.0	817.0	836.3	869.6	953.8	1165.9	1705.9	2884.0	4500.5
71°	790.7	787.2	773.1	767.9	776.7	794.2	831.0	929.2	1211.5	1967.1	3360.9
72.5°	746.9	738.1	717.1	708.3	710.0	717.1	727.6	766.2	852.0	1118.6	1916.3
75°	680.3	659.2	632.9	620.6	615.4	613.7	613.7	624.1	643.4	674.9	785.4
77.5°	603.1	573.3	545.2	533.0	524.3	518.9	515.5	508.4	504.9	518.9	559.2
80°	510.1	478.6	455.8	448.9	443.6	433.0	419.0	405.0	396.2	403.2	427.8
82.5°	394.4	362.9	366.4	368.2	359.4	341.9	327.9	312.1	296.2	292.8	305.0
85°	313.8	298.1	287.6	310.4	291.0	270.0	250.7	224.4	187.6	154.3	168.3
87.5°	135.0	136.8	196.4	296.2	259.5	208.7	173.6	140.2	89.4	66.6	68.3
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	3115.5	3115.5	3115.5	3115.5	3115.5	3115.5	3115.5	3115.5
2.5°	3112.0	3112.0	3106.7	3103.2	3103.2	3103.2	3099.7	3101.5
5°	3133.0	3136.5	3140.0	3138.3	3143.5	3148.7	3147.0	3145.3
7.5°	3168.1	3178.6	3189.2	3194.4	3201.4	3208.4	3210.1	3204.9
10°	3203.2	3224.1	3240.0	3254.0	3262.7	3269.8	3275.0	3273.2
12.5°	3246.9	3276.8	3304.8	3332.9	3352.2	3362.6	3373.2	3369.7
15°	3318.9	3352.2	3387.2	3424.0	3453.9	3469.6	3485.4	3481.9
17.5°	3417.1	3446.8	3474.9	3511.7	3548.5	3566.0	3583.6	3581.9
20°	3539.7	3562.5	3578.3	3599.4	3634.4	3653.7	3669.5	3664.2
22.5°	3680.0	3687.0	3688.8	3695.8	3723.8	3746.7	3767.6	3772.9
25°	3832.6	3827.3	3816.7	3811.5	3830.7	3855.3	3881.6	3888.6
27.5°	4021.9	4004.3	3978.1	3957.0	3962.3	3993.8	4023.7	4030.6
30°	4260.3	4220.0	4163.9	4123.6	4116.6	4149.9	4181.4	4192.0
32.5°	4532.1	4477.8	4400.6	4339.3	4313.0	4342.7	4370.8	4386.5
35°	4854.7	4795.1	4702.1	4623.2	4581.2	4600.4	4649.5	4667.1
37.5°	5236.9	5154.4	5051.0	4951.1	4881.0	4884.5	4937.1	4958.1
40°	5659.4	5540.2	5408.6	5284.3	5182.6	5175.5	5222.9	5238.6
42.5°	6099.4	5946.9	5792.7	5629.6	5503.4	5480.6	5541.9	5543.7
45°	6572.9	6376.5	6185.4	5996.0	5864.6	5824.2	5883.8	5890.9
47.5°	7077.8	6832.3	6606.1	6401.0	6259.0	6195.9	6253.7	6264.2
50°	7603.7	7349.5	7086.5	6858.6	6692.0	6614.9	6683.2	6690.3
52.5°	8124.5	7884.3	7623.0	7361.8	7160.1	7072.5	7153.2	7177.7
55°	8648.6	8417.2	8171.7	7910.6	7656.3	7579.1	7666.8	7693.1
57.5°	9193.9	8971.3	8748.6	8485.6	8238.4	8120.9	8215.6	8252.5
60°	9795.3	9598.9	9388.5	9123.8	8880.0	8743.4	8824.0	8866.0
62.5°	10386.1	10345.7	10154.6	9879.5	9570.8	9434.1	9502.5	9532.3
65°	10435.2	11089.1	11080.4	10806.9	10375.6	10145.9	10165.2	10179.2
67.5°	9107.9	10608.7	11567.7	11653.7	11173.3	10813.9	10771.8	10780.6
70°	6448.4	8508.4	10543.9	11879.8	12069.2	11790.4	11699.3	11713.3
71°	5166.7	7300.4	9541.1	11338.1	12055.2	11974.6	11923.6	11960.4
72.5°	3297.8	5378.9	7559.9	9709.3	11085.6	11480.1	11538.0	11560.8
75°	1197.5	2314.2	3916.7	5612.1	7112.8	8145.5	8713.5	8759.1
77.5°	643.4	829.3	1281.7	1914.6	2405.5	2668.4	2700.0	2712.3
80°	473.3	548.7	627.7	717.1	773.1	783.7	764.5	724.0
82.5°	334.9	378.7	410.2	441.8	464.6	445.3	369.9	282.2
85°	194.6	213.9	231.4	247.2	250.7	236.7	156.0	128.0
87.5°	77.1	84.2	82.4	92.9	89.4	82.4	61.4	52.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)