

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: P196415

Luminaire Tested: **NAV-AF-05-D-UNV-5MQ-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196415
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24129)
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-5MQ-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 33975.3 lumens
Efficiency: N/A
Efficacy: 106.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B5 - U0 - G4

Input Watts (W): 320
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

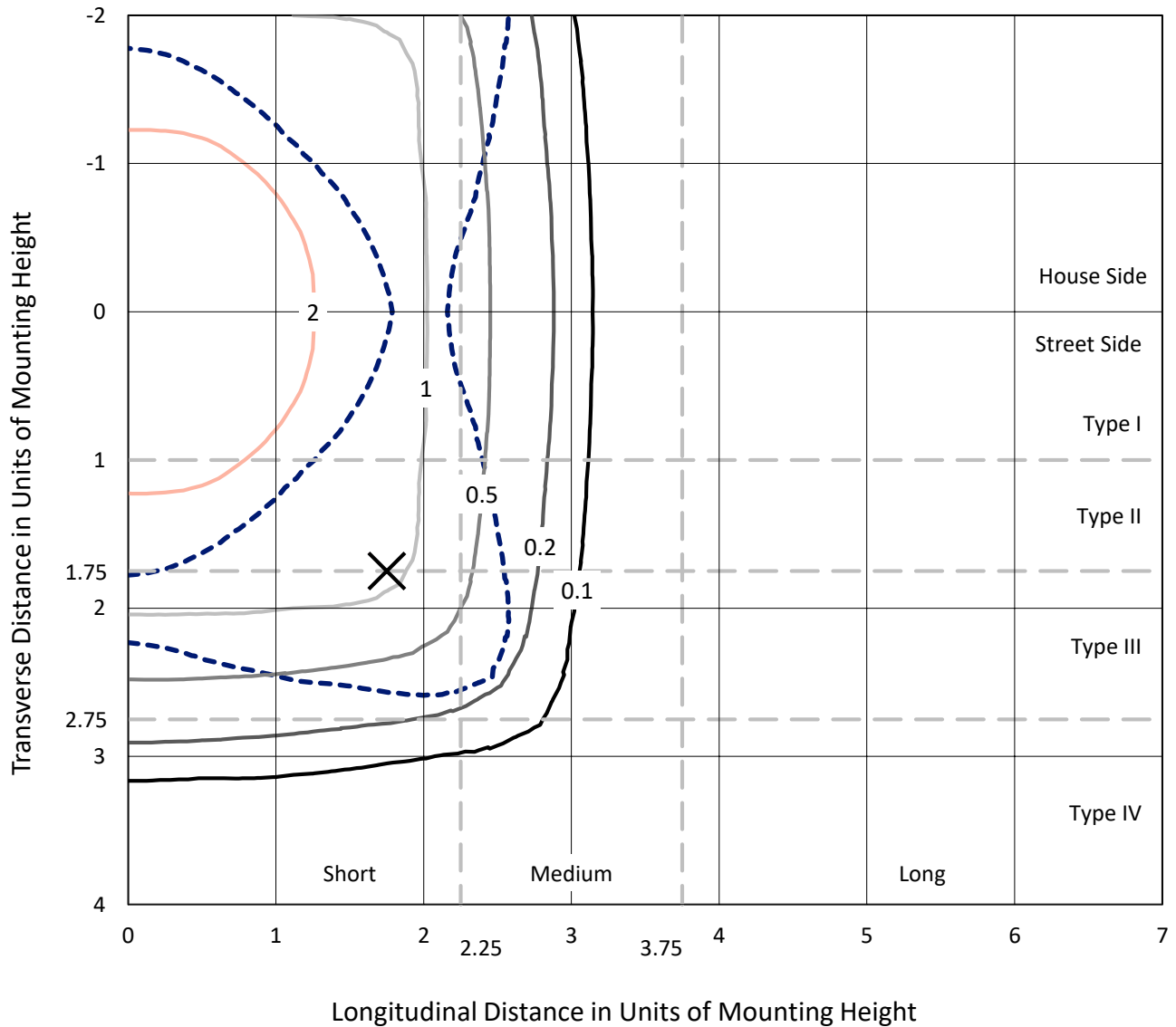


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Iso-Footcandle Lines of Horizontal Illumination

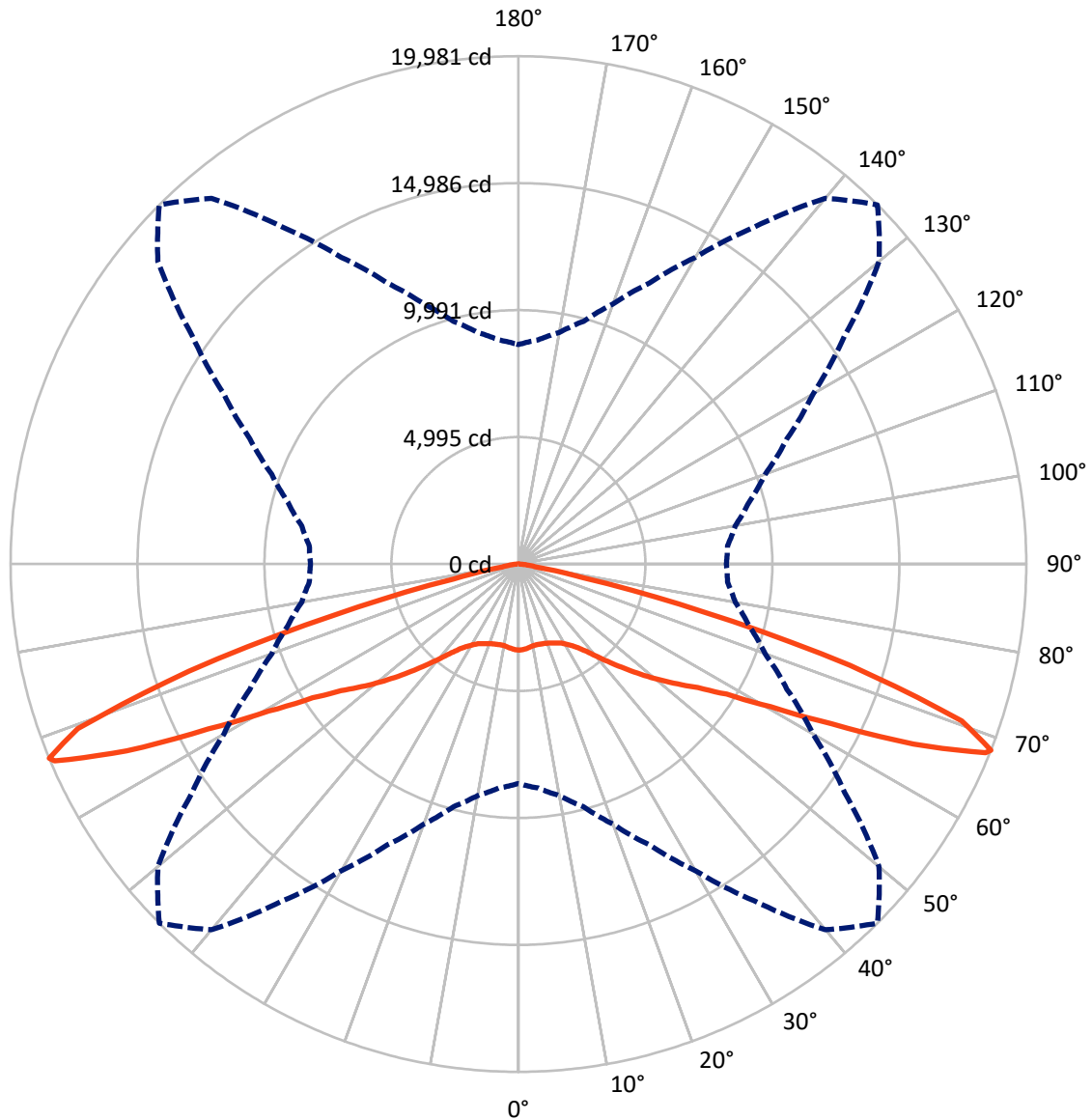
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 3.8 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	16987.6	0.0	16987.6
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	16987.6	0.0	16987.6
	% Fixture	50.0	0.0	50.0
Total	Lumens	33975.3	0.0	33975.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	317.1	0.9
10°-20°	919.8	2.7
20°-30°	1563.6	4.6
30°-40°	2558.9	7.5
40°-50°	4573.1	13.5
50°-60°	7723.2	22.7
60°-70°	11975.8	35.2
70°-80°	4117.5	12.1
80°-90°	226.3	0.7
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°	33975.3	100.0
0°-180°	33975.3	100.0



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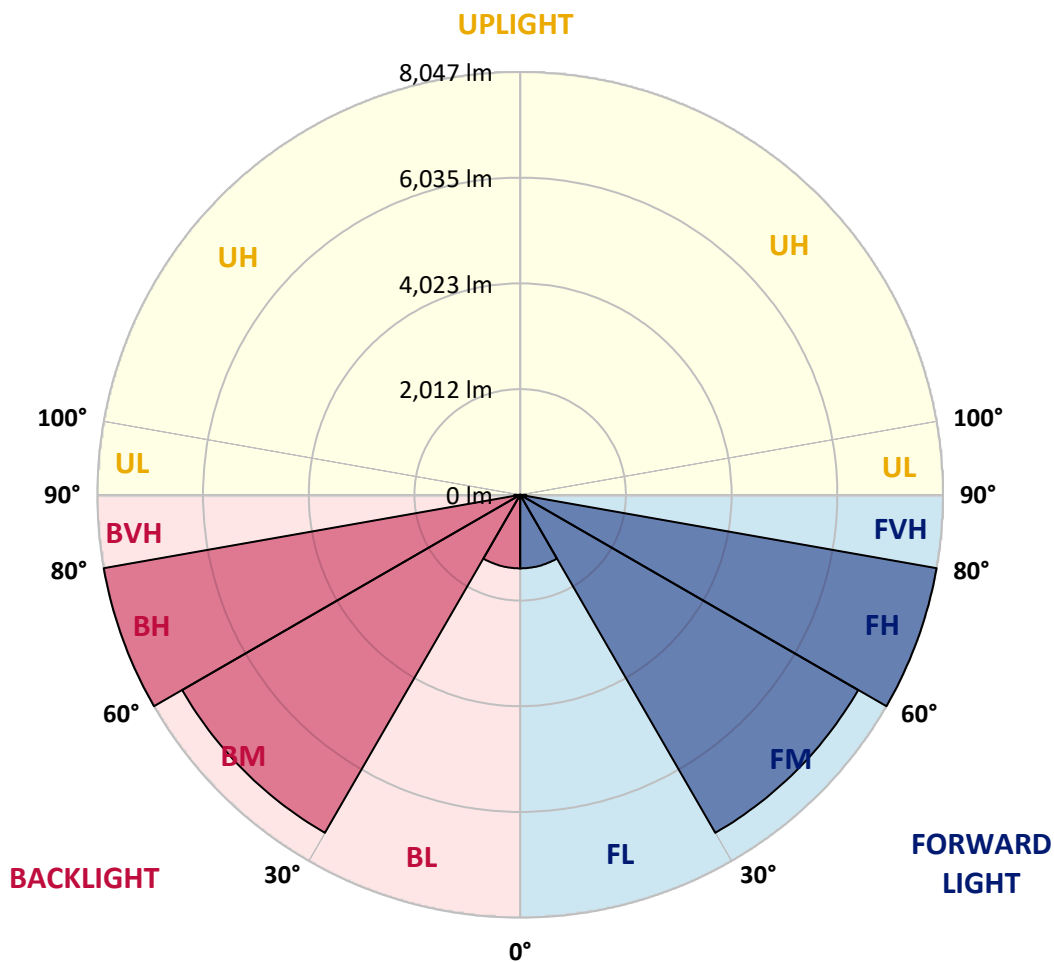
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1400.3	4.1			
FM	(30°-60°)	7427.6	21.9			
FH	(60°-80°)	8046.7	23.7			G4/12000
FVH	(80°-90°)	113.1	0.3			G2/225
BL	(0°-30°)	1400.3	4.1	B3/2500		
BM	(30°-60°)	7427.6	21.9	B4/8500		
BH	(60°-80°)	8046.7	23.7	B5		G4/12000
BVH	(80°-90°)	113.1	0.3			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B5-U0-G4

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3389.1	3389.1	3389.1	3389.1	3389.1	3389.1	3389.1	3389.1	3389.1	3389.1	3389.1
2.5°	3403.7	3403.7	3407.9	3405.8	3399.5	3393.3	3387.0	3380.8	3376.6	3372.5	3368.4
5°	3368.4	3368.4	3374.6	3370.4	3366.3	3360.0	3355.9	3349.6	3345.4	3341.2	3343.4
7.5°	3322.6	3326.7	3330.9	3328.8	3320.5	3318.4	3312.2	3310.1	3305.9	3299.6	3301.7
10°	3283.0	3285.1	3289.2	3287.2	3285.1	3278.9	3276.8	3274.7	3272.7	3264.3	3262.3
12.5°	3243.5	3247.6	3251.8	3253.8	3251.8	3253.8	3256.0	3258.1	3256.0	3251.8	3251.8
15°	3212.3	3216.5	3222.7	3228.9	3231.1	3243.5	3251.8	3260.2	3266.5	3268.5	3262.3
17.5°	3195.7	3201.9	3210.2	3222.7	3233.1	3247.6	3262.3	3274.7	3285.1	3287.2	3280.9
20°	3193.5	3199.7	3212.3	3226.9	3245.5	3264.3	3287.2	3305.9	3316.3	3322.6	3316.3
22.5°	3208.2	3216.5	3233.1	3251.8	3274.7	3299.6	3328.8	3349.6	3370.4	3378.8	3372.5
25°	3249.7	3258.1	3276.8	3299.6	3324.6	3355.9	3385.0	3412.0	3432.8	3443.2	3434.9
27.5°	3337.1	3339.2	3360.0	3385.0	3414.2	3441.1	3478.6	3491.1	3507.8	3518.1	3507.8
30°	3459.9	3464.1	3482.7	3522.3	3549.3	3584.7	3605.5	3618.0	3636.7	3647.1	3634.6
32.5°	3647.1	3651.2	3668.0	3705.4	3730.3	3757.4	3782.3	3790.6	3809.5	3821.9	3807.3
35°	3911.4	3919.6	3934.2	3959.2	3980.0	4000.7	4019.5	4013.3	4025.7	4042.4	4027.9
37.5°	4273.3	4271.3	4275.5	4294.1	4314.9	4327.4	4356.6	4342.0	4354.5	4369.1	4360.7
40°	4695.6	4695.6	4693.6	4726.9	4735.2	4747.8	4778.9	4760.2	4776.9	4793.4	4778.9
42.5°	5176.2	5184.6	5195.1	5222.0	5245.0	5249.2	5263.7	5255.4	5276.1	5290.7	5276.1
45°	5729.7	5742.2	5754.6	5817.1	5827.5	5835.7	5846.3	5819.1	5842.1	5854.5	5850.4
47.5°	6303.9	6326.7	6353.9	6418.3	6460.0	6478.6	6487.0	6455.8	6457.9	6476.6	6478.6
50°	6953.0	6978.0	7005.0	7077.9	7117.3	7150.7	7161.1	7125.7	7129.8	7144.5	7148.7
52.5°	7552.2	7581.4	7639.6	7737.4	7793.6	7851.8	7856.0	7812.2	7831.0	7841.4	7833.2
55°	8116.0	8153.5	8230.5	8361.5	8463.4	8578.0	8630.0	8582.1	8582.1	8573.7	8569.5
57.5°	8773.5	8815.0	8894.1	9046.0	9187.5	9351.8	9493.3	9541.2	9628.6	9657.7	9611.9
60°	9763.7	9807.4	9888.6	10088.4	10267.3	10506.5	10739.5	10928.8	11236.8	11403.2	11253.3
62.5°	10668.8	10735.4	10926.8	11276.3	11663.3	12106.5	12620.3	12986.4	13546.2	13824.9	13448.4
65°	10462.8	10598.0	10972.6	11521.8	12320.7	13281.9	14328.4	15333.2	16490.1	17083.0	16317.4
67.5°	9139.6	9254.0	9657.7	10296.4	11292.9	12618.3	14245.2	16325.6	18712.0	19823.0	18468.6
68°	8634.1	8848.4	9249.9	9884.4	10889.4	12191.7	13928.9	16175.9	18780.7	19981.2	18518.6
70°	6620.1	6697.1	7081.9	7652.1	8736.1	10013.4	11767.3	14328.4	17272.2	18508.1	17003.9
72.5°	3145.7	3191.5	3441.1	4002.9	4691.5	5731.7	7279.6	9695.1	12347.7	13633.5	12133.5
75°	1152.5	1162.9	1221.3	1354.4	1612.3	2003.5	2746.2	4248.3	6289.4	7500.2	6314.3
77.5°	622.1	624.2	647.1	680.3	726.1	778.2	890.5	1194.2	1926.6	2621.4	2034.7
80°	391.1	389.1	411.9	439.0	470.2	495.2	505.6	541.0	609.5	713.6	655.3
82.5°	199.7	218.4	270.4	299.6	345.4	353.7	343.3	341.2	361.9	391.1	403.6
85°	110.3	97.8	143.5	191.4	208.0	214.2	216.4	203.9	199.7	195.6	206.0
87.5°	56.2	52.0	62.4	95.7	101.9	83.2	85.3	72.7	49.9	49.9	52.0
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	3389.1	3389.1	3389.1	3389.1	3389.1	3389.1	3389.1	3389.1
2.5°	3364.2	3366.3	3362.1	3362.1	3362.1	3364.2	3362.1	3360.0
5°	3337.1	3341.2	3341.2	3343.4	3345.4	3345.4	3345.4	3345.4
7.5°	3297.6	3299.6	3303.8	3303.8	3303.8	3303.8	3303.8	3303.8
10°	3260.2	3256.0	3253.8	3249.7	3249.7	3243.5	3245.5	3247.6
12.5°	3241.4	3233.1	3228.9	3222.7	3218.6	3212.3	3212.3	3214.4
15°	3249.7	3237.3	3224.8	3220.6	3216.5	3212.3	3208.2	3210.2
17.5°	3266.5	3251.8	3237.3	3228.9	3220.6	3214.4	3212.3	3214.4
20°	3301.7	3280.9	3258.1	3243.5	3226.9	3222.7	3216.5	3222.7
22.5°	3349.6	3324.6	3295.5	3268.5	3249.7	3241.4	3233.1	3239.3
25°	3407.9	3380.8	3351.6	3320.5	3299.6	3293.4	3283.0	3283.0
27.5°	3488.9	3466.1	3441.1	3412.0	3391.2	3385.0	3368.4	3368.4
30°	3618.0	3595.0	3572.2	3547.2	3526.5	3520.3	3499.3	3499.3
32.5°	3788.6	3763.7	3749.0	3728.3	3711.6	3701.1	3676.2	3674.2
35°	4017.5	3994.5	3992.5	3977.9	3961.3	3963.4	3938.4	3934.2
37.5°	4346.2	4327.4	4333.7	4321.2	4306.7	4319.1	4304.6	4304.6
40°	4766.4	4760.2	4766.4	4758.1	4760.2	4762.3	4749.8	4754.0
42.5°	5274.1	5257.4	5294.9	5290.7	5284.5	5301.2	5272.0	5251.2
45°	5858.7	5852.5	5889.8	5896.1	5883.6	5894.1	5842.1	5839.9
47.5°	6493.3	6493.3	6526.5	6522.3	6509.8	6512.0	6449.6	6410.0
50°	7154.9	7150.7	7184.1	7175.6	7159.0	7156.9	7092.4	7052.9
52.5°	7843.5	7843.5	7891.4	7868.5	7829.0	7810.2	7731.1	7679.1
55°	8604.9	8594.6	8609.1	8534.2	8457.2	8401.1	8303.2	8263.8
57.5°	9568.3	9447.5	9343.6	9247.8	9139.6	9073.1	8958.6	8916.9
60°	10935.1	10612.7	10473.3	10281.9	10102.8	10013.4	9861.5	9780.5
62.5°	12828.3	12293.7	11915.0	11492.7	11084.9	10797.8	10566.9	10465.0
65°	15017.0	13852.0	12888.7	11983.7	11216.0	10606.4	10267.3	10161.1
67.5°	15849.2	13710.5	12048.1	10749.9	9817.9	9091.8	8686.1	8600.8
68°	15672.3	13385.9	11659.2	10329.7	9393.4	8661.1	8257.5	8180.6
70°	13824.9	11292.9	9470.5	8147.3	7273.4	6576.5	6291.4	6168.7
72.5°	9424.7	7252.6	5563.3	4450.2	3796.9	3355.9	3093.6	3004.2
75°	4337.8	2931.4	1957.7	1462.6	1242.1	1136.0	1054.8	1034.0
77.5°	1264.9	919.6	790.6	732.4	688.7	651.1	624.2	622.1
80°	601.3	563.8	547.2	509.7	470.2	434.9	409.8	414.0
82.5°	403.6	393.3	393.3	355.7	293.4	251.8	208.0	187.3
85°	214.2	222.6	235.1	222.6	193.5	143.5	93.6	101.9
87.5°	72.7	83.2	87.4	85.3	77.0	58.2	43.7	43.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)