

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: P195952

Luminaire Tested: **NAV-AF-04-D-UNV-5NQ**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195952
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)
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-5NQ
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25655.6 lumens
Efficiency: N/A
Efficacy: 114.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

Input Watts (W): 225
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

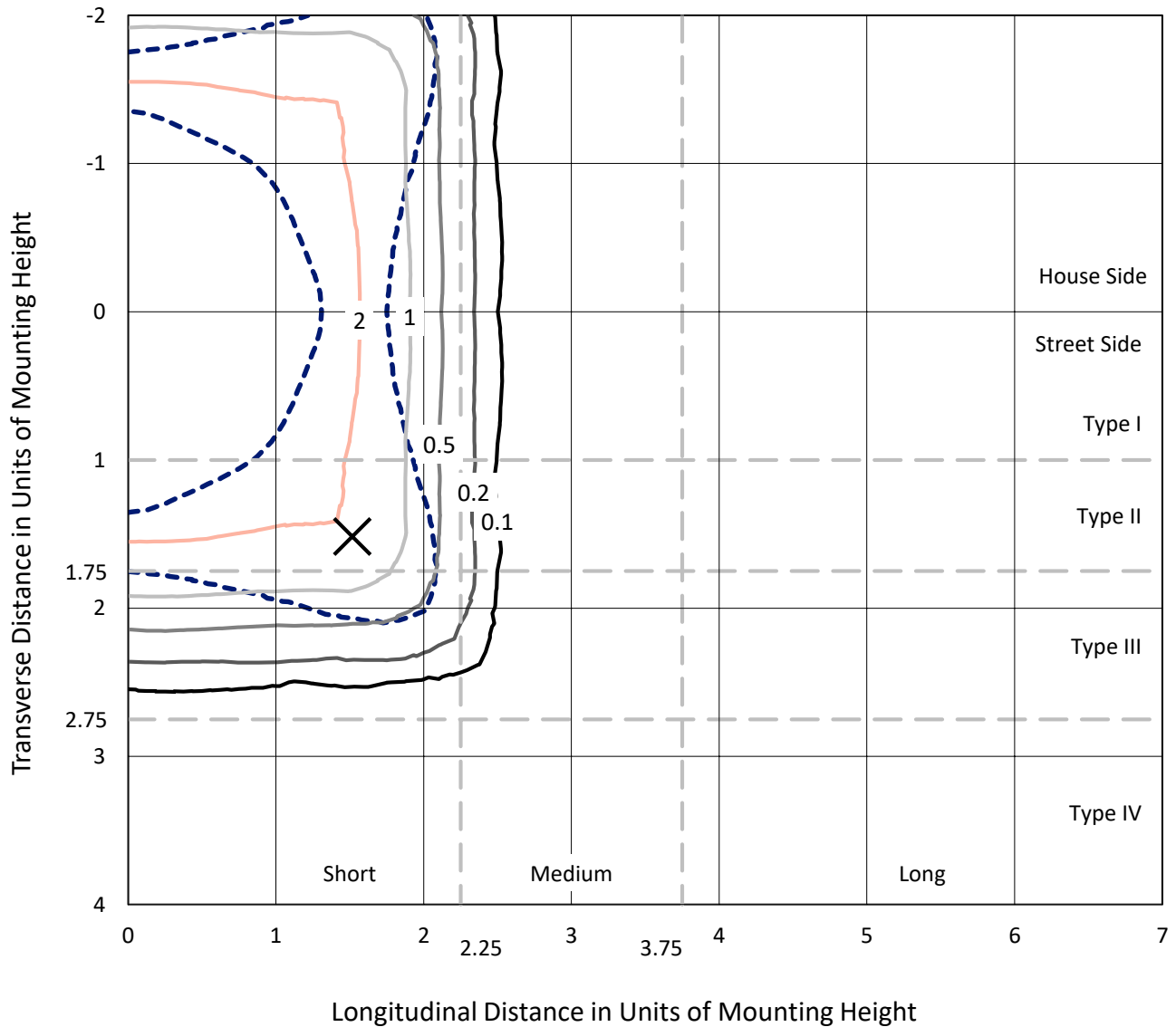


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Iso-Footcandle Lines of Horizontal Illumination

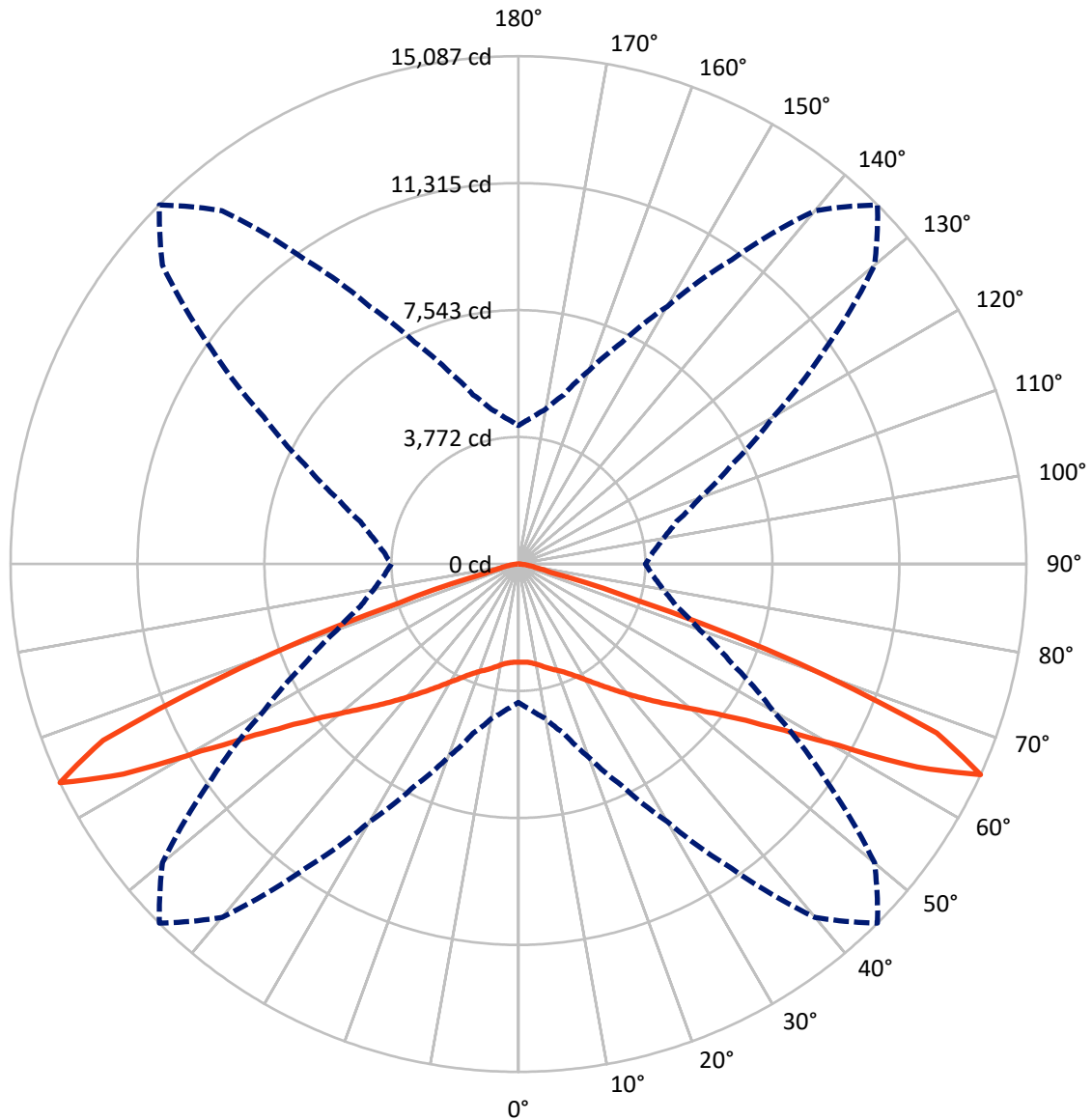
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	12827.8	0.0	12827.8
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	12827.8	0.0	12827.8
	% Fixture	50.0	0.0	50.0
Total	Lumens	25655.6	0.0	25655.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	284.2	1.1
10°-20°	910.8	3.6
20°-30°	1699.1	6.6
30°-40°	2865.0	11.2
40°-50°	4653.6	18.1
50°-60°	7291.4	28.4
60°-70°	6882.7	26.8
70°-80°	927.6	3.6
80°-90°	141.3	0.6
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°	25655.6	100.0
0°-180°	25655.6	100.0



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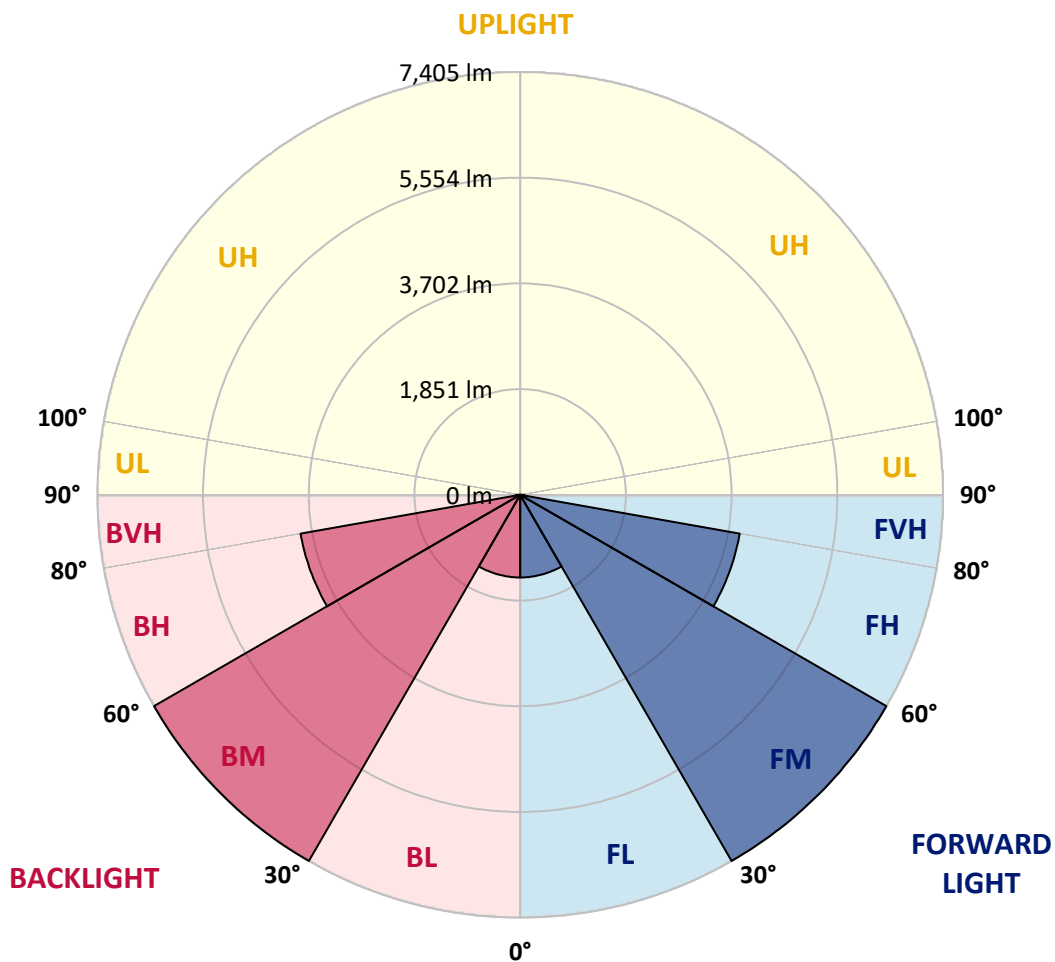
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1447.1	5.6			
FM	(30°-60°)	7405.0	28.9			
FH	(60°-80°)	3905.1	15.2			G2/5000
FVH	(80°-90°)	70.6	0.3			G1/100
BL	(0°-30°)	1447.1	5.6	B3/2500		
BM	(30°-60°)	7405.0	28.9	B4/8500		
BH	(60°-80°)	3905.1	15.2	B4/5000		G2/5000
BVH	(80°-90°)	70.6	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2918.3	2918.3	2918.3	2918.3	2918.3	2918.3	2918.3	2918.3	2918.3	2918.3	2918.3
2.5°	2942.3	2942.3	2947.0	2945.5	2939.0	2934.2	2929.5	2923.1	2919.9	2916.7	2915.1
5°	2958.3	2958.3	2963.1	2961.4	2956.6	2950.3	2947.0	2942.3	2937.5	2934.2	2935.9
7.5°	2998.2	2999.8	3001.4	2999.8	2995.0	2990.2	2983.8	2982.2	2975.9	2971.1	2974.2
10°	3058.9	3058.9	3060.6	3062.1	3058.9	3047.8	3047.8	3044.5	3038.2	3031.7	3033.4
12.5°	3126.0	3126.0	3127.7	3127.7	3127.7	3121.2	3122.9	3121.2	3113.2	3110.1	3113.2
15°	3191.6	3193.1	3193.1	3196.4	3196.4	3197.9	3204.4	3204.4	3201.2	3199.6	3199.6
17.5°	3268.3	3271.5	3273.1	3277.8	3279.5	3282.6	3289.1	3290.6	3292.3	3287.5	3289.1
20°	3370.6	3372.2	3377.0	3378.6	3384.9	3384.9	3388.1	3386.6	3383.4	3377.0	3377.0
22.5°	3485.6	3488.9	3498.4	3498.4	3506.5	3501.7	3503.2	3498.4	3490.4	3487.2	3484.1
25°	3635.9	3640.7	3648.7	3645.5	3648.7	3640.7	3640.7	3640.7	3635.9	3631.1	3629.5
27.5°	3826.0	3818.1	3826.0	3819.7	3818.1	3811.7	3813.3	3810.1	3805.3	3803.7	3797.3
30°	4024.3	4014.7	4019.5	4021.0	4017.8	4016.2	4009.9	4005.1	3997.1	3998.7	3993.9
32.5°	4251.2	4241.6	4246.4	4248.0	4244.8	4248.0	4246.4	4235.2	4225.6	4232.0	4232.0
35°	4521.2	4514.9	4527.7	4532.5	4522.9	4518.1	4511.7	4498.9	4484.5	4494.1	4495.7
37.5°	4845.7	4837.7	4847.4	4860.1	4842.5	4832.9	4807.4	4788.1	4778.6	4783.4	4789.8
40°	5182.9	5184.5	5211.7	5214.9	5195.7	5184.5	5158.9	5130.2	5103.0	5103.0	5111.0
42.5°	5537.7	5542.6	5574.5	5585.7	5579.3	5558.5	5523.3	5488.2	5453.0	5459.4	5469.0
45°	5938.8	5932.5	5966.1	5993.2	5988.5	5982.0	5948.5	5884.5	5852.6	5851.0	5866.9
47.5°	6360.8	6373.6	6408.8	6455.1	6453.5	6437.5	6394.4	6335.2	6276.1	6280.9	6300.0
50°	6853.1	6870.6	6929.8	6976.1	6982.5	6977.6	6926.6	6857.9	6774.7	6779.5	6805.1
52.5°	7294.2	7319.7	7388.5	7484.3	7543.4	7570.7	7537.1	7473.2	7388.5	7393.3	7420.4
55°	7693.7	7733.6	7835.9	7966.9	8085.2	8195.5	8245.1	8243.4	8181.2	8195.5	8230.7
57.5°	7944.6	8000.5	8155.6	8366.5	8601.5	8823.6	9015.4	9196.0	9235.9	9311.1	9311.1
60°	7607.4	7738.4	7944.6	8305.7	8767.7	9266.3	9806.5	10332.3	10671.1	10938.0	10794.2
62.5°	6352.8	6546.2	6835.5	7311.7	8030.9	8921.1	10006.3	11228.9	12504.2	13284.1	12712.0
65°	4110.5	4353.5	4668.3	5203.8	6109.9	7255.8	8836.4	11033.9	13702.8	15086.9	13808.4
67.5°	1628.5	1793.1	1984.9	2365.4	3151.6	4276.8	6050.8	8761.3	12099.9	13405.6	11972.0
70°	778.4	805.5	842.2	923.7	1120.3	1511.9	2430.8	4316.8	7420.4	8796.5	7243.0
72.5°	562.5	567.3	584.9	612.1	669.6	749.5	910.9	1320.1	2558.7	3720.6	2561.9
75°	426.7	433.1	442.7	457.1	487.4	525.8	586.6	703.2	875.9	1010.1	874.2
77.5°	324.5	330.8	338.8	353.2	369.2	396.4	418.7	465.0	538.6	567.3	564.2
80°	236.5	247.8	260.5	273.3	284.5	297.3	298.9	321.2	362.7	389.9	382.0
82.5°	150.3	159.8	193.3	207.8	209.4	212.6	210.9	212.6	235.0	254.1	247.8
85°	95.9	102.3	119.9	135.8	132.7	139.0	139.0	135.8	126.2	108.6	129.4
87.5°	48.0	49.5	57.5	71.9	68.7	60.8	59.1	59.1	43.2	36.7	40.0
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°	2918.3	2918.3	2918.3	2918.3	2918.3	2918.3	2918.3	2918.3
2.5°	2910.3	2913.5	2908.7	2908.7	2907.1	2910.3	2905.5	2905.5
5°	2932.7	2937.5	2935.9	2935.9	2939.0	2942.3	2940.7	2939.0
7.5°	2972.6	2975.9	2979.0	2980.7	2983.8	2982.2	2985.4	2983.8
10°	3033.4	3030.2	3035.0	3030.2	3031.7	3028.5	3030.2	3030.2
12.5°	3110.1	3105.3	3102.1	3098.9	3098.9	3092.5	3092.5	3094.1
15°	3197.9	3190.0	3183.6	3180.4	3177.2	3177.2	3172.4	3175.6
17.5°	3284.3	3276.3	3265.1	3265.1	3260.3	3257.1	3253.9	3261.9
20°	3375.3	3367.3	3361.0	3359.4	3349.8	3346.6	3348.2	3357.8
22.5°	3480.9	3476.1	3476.1	3472.8	3466.5	3461.7	3461.7	3472.8
25°	3623.1	3613.5	3615.1	3616.7	3613.5	3613.5	3610.3	3618.3
27.5°	3797.3	3789.3	3794.1	3797.3	3794.1	3798.9	3794.1	3800.5
30°	4001.9	3997.1	4001.9	4006.7	3998.7	3998.7	3995.4	4000.2
32.5°	4246.4	4240.0	4243.2	4243.2	4232.0	4222.4	4209.6	4219.3
35°	4514.9	4506.9	4513.3	4518.1	4505.3	4495.7	4476.5	4484.5
37.5°	4810.5	4813.7	4821.8	4842.5	4839.3	4823.3	4809.0	4815.3
40°	5141.4	5157.3	5192.5	5206.9	5203.8	5187.7	5168.6	5171.7
42.5°	5515.3	5536.1	5572.9	5596.9	5585.7	5563.3	5539.3	5548.9
45°	5922.9	5954.9	6002.8	6026.8	6012.4	5988.5	5954.9	5972.4
47.5°	6354.4	6418.3	6482.2	6514.3	6509.4	6475.9	6432.7	6437.5
50°	6870.6	6955.3	7036.9	7068.8	7044.9	6993.7	6932.9	6931.3
52.5°	7513.1	7604.2	7671.3	7663.3	7604.2	7524.3	7455.6	7452.4
55°	8315.4	8345.7	8336.1	8267.4	8163.6	8038.9	7951.0	7936.6
57.5°	9285.5	9183.2	9033.0	8825.2	8591.9	8355.4	8195.5	8136.3
60°	10471.3	10009.5	9472.4	8906.7	8390.4	8003.8	7759.2	7610.5
62.5°	11451.0	10113.3	8913.1	7930.2	7126.3	6648.5	6314.5	6108.2
65°	11115.4	8737.3	6998.5	5731.1	4853.7	4359.8	4006.7	3771.7
67.5°	8587.1	5838.2	4062.6	2816.0	2135.2	1807.6	1579.0	1430.4
70°	4329.5	2239.0	1356.8	957.3	818.3	760.8	722.4	700.0
72.5°	1270.6	848.6	704.8	623.3	573.8	538.6	516.2	505.0
75°	703.2	573.8	506.7	460.3	428.3	404.4	389.9	380.3
77.5°	484.3	417.2	383.6	353.2	327.7	310.1	298.9	289.3
80°	338.8	305.2	290.8	274.9	255.7	241.3	225.4	218.9
82.5°	225.4	210.9	207.8	195.0	183.8	167.8	139.0	129.4
85°	132.7	131.0	131.0	126.2	118.3	103.9	83.1	83.1
87.5°	46.3	48.0	49.5	52.8	51.1	43.2	35.2	33.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)