

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: P195478

Luminaire Tested: **NAV-AF-04-D-UNV-5NQ-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195478
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-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 27513 lumens
Efficiency: N/A
Efficacy: 106.6 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

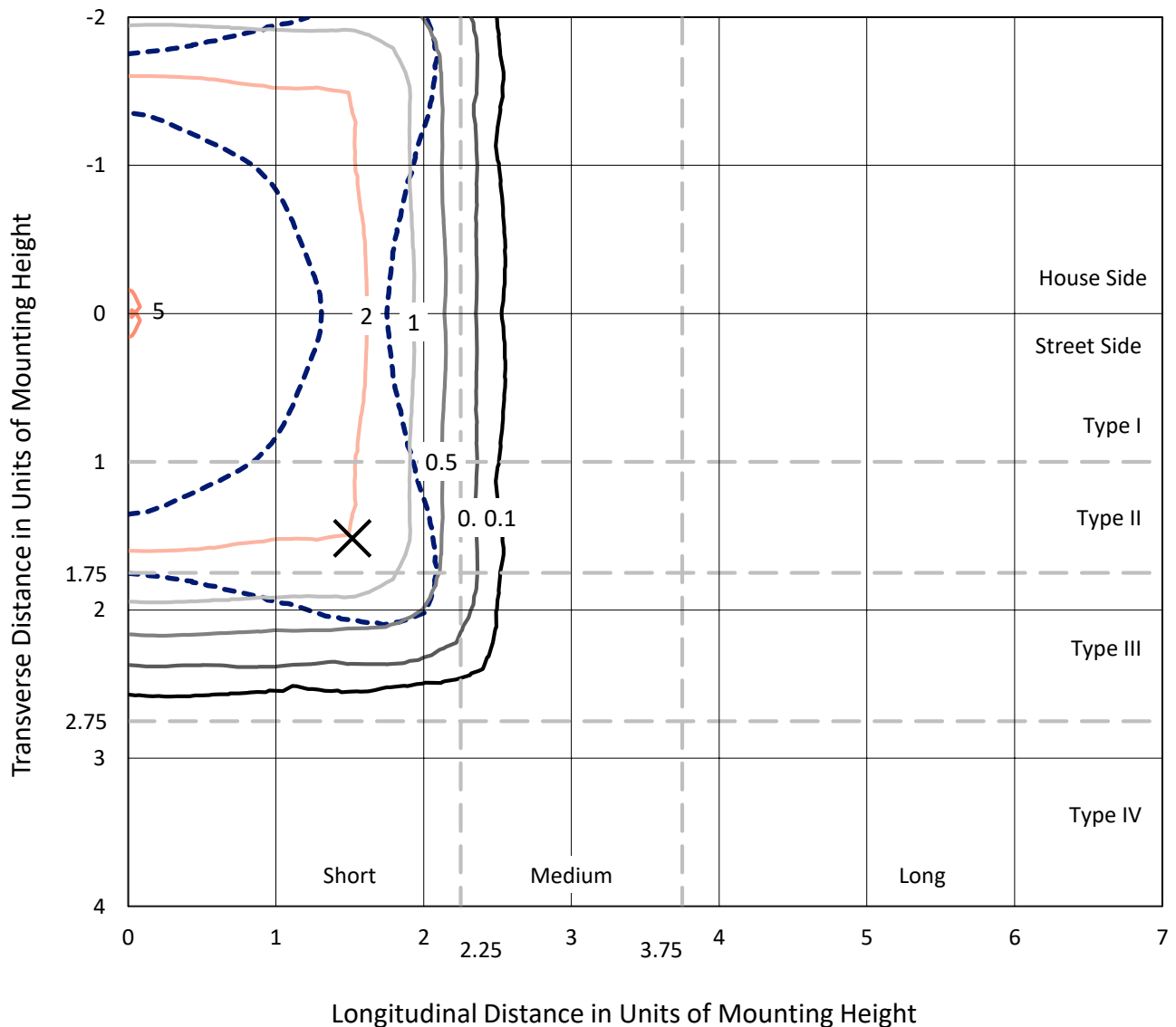
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

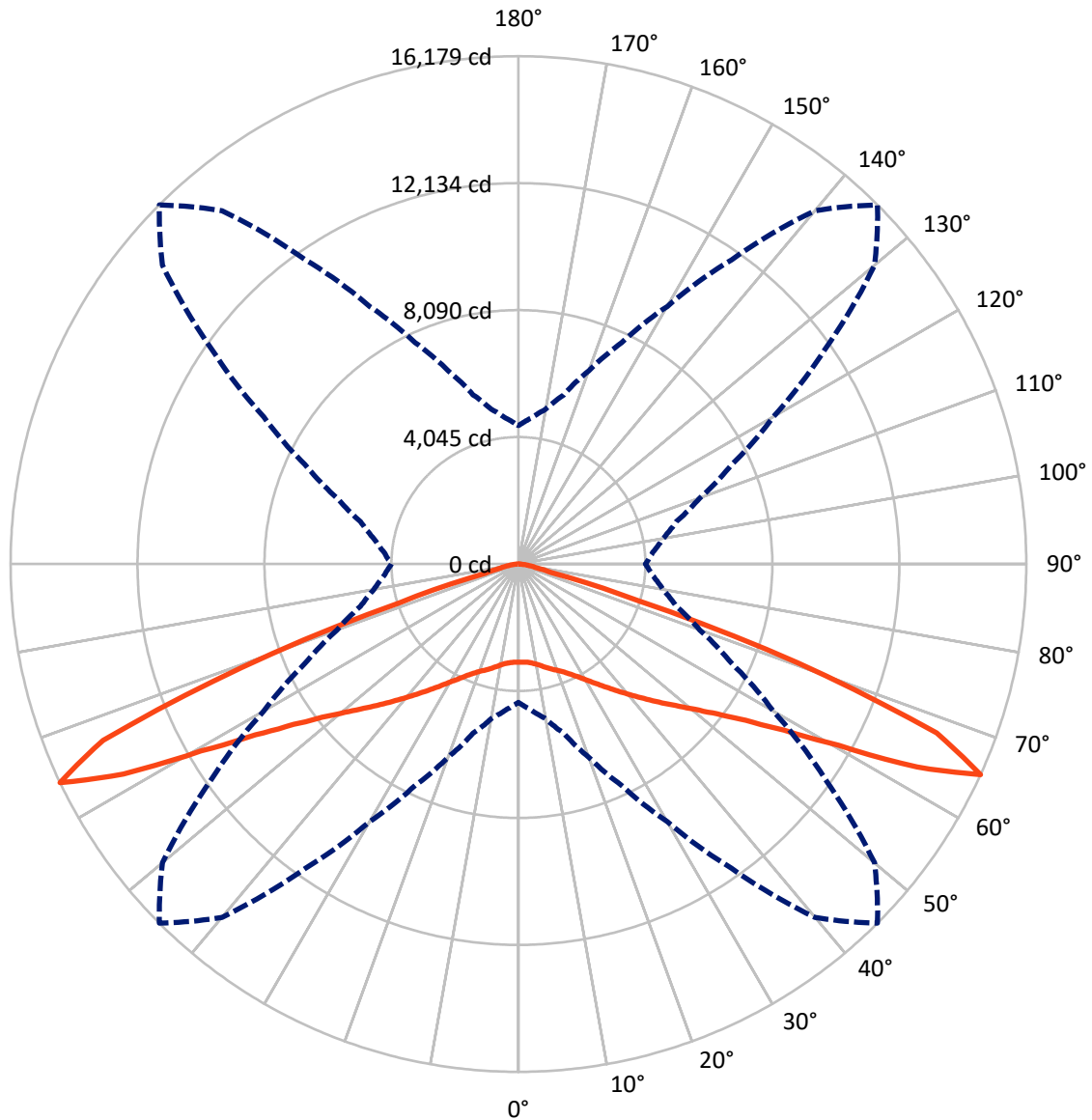
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 fc
 Type 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	13756.5	0.0	13756.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	13756.5	0.0	13756.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	27513.0	0.0	27513.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	304.8	1.1
10°-20°	976.8	3.6
20°-30°	1822.1	6.6
30°-40°	3072.4	11.2
40°-50°	4990.5	18.1
50°-60°	7819.2	28.4
60°-70°	7381.0	26.8
70°-80°	994.7	3.6
80°-90°	151.5	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°	27513.0	100.0
0°-180°	27513.0	100.0



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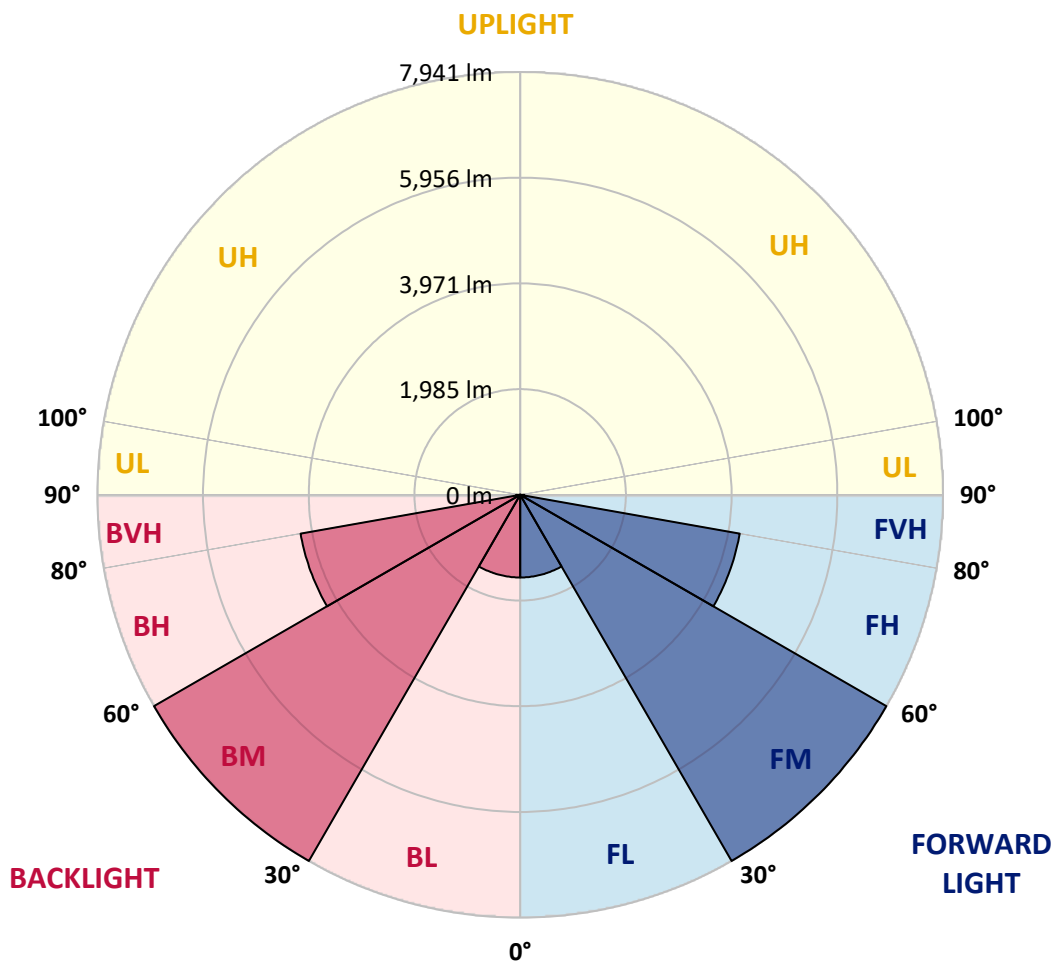
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1551.8	5.6			
FM	(30°-60°)	7941.1	28.9			
FH	(60°-80°)	4187.8	15.2			G2/5000
FVH	(80°-90°)	75.8	0.3			G1/100
BL	(0°-30°)	1551.8	5.6	B3/2500		
BM	(30°-60°)	7941.1	28.9	B4/8500		
BH	(60°-80°)	4187.8	15.2	B4/5000		G2/5000
BVH	(80°-90°)	75.8	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°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3155.3	3155.3	3160.4	3158.7	3151.9	3146.7	3141.6	3134.7	3131.3	3127.9	3126.1
5°	3172.4	3172.4	3177.6	3175.8	3170.7	3163.8	3160.4	3155.3	3150.1	3146.7	3148.4
7.5°	3215.3	3217.0	3218.7	3217.0	3211.8	3206.7	3199.8	3198.1	3191.3	3186.1	3189.6
10°	3280.4	3280.4	3282.1	3283.8	3280.4	3268.4	3268.4	3265.0	3258.1	3251.3	3253.0
12.5°	3352.4	3352.4	3354.1	3354.1	3354.1	3347.2	3348.9	3347.2	3338.7	3335.2	3338.7
15°	3422.6	3424.4	3424.4	3427.8	3427.8	3429.5	3436.4	3436.4	3432.9	3431.2	3431.2
17.5°	3504.9	3508.3	3510.1	3515.2	3516.9	3520.3	3527.2	3528.9	3530.6	3525.5	3527.2
20°	3614.6	3616.3	3621.5	3623.2	3630.0	3630.0	3633.5	3631.7	3628.3	3621.5	3621.5
22.5°	3738.0	3741.4	3751.7	3751.7	3760.3	3755.1	3756.9	3751.7	3743.1	3739.7	3736.3
25°	3899.1	3904.3	3912.8	3909.4	3912.8	3904.3	3904.3	3904.3	3899.1	3894.0	3892.3
27.5°	4103.1	4094.5	4103.1	4096.2	4094.5	4087.6	4089.4	4085.9	4080.8	4079.1	4072.2
30°	4315.6	4305.3	4310.4	4312.2	4308.7	4307.0	4300.2	4295.0	4286.4	4288.2	4283.0
32.5°	4559.0	4548.7	4553.8	4555.5	4552.1	4555.5	4553.8	4541.8	4531.5	4538.4	4538.4
35°	4848.6	4841.8	4855.5	4860.6	4850.3	4845.2	4838.3	4824.6	4809.2	4819.5	4821.2
37.5°	5196.5	5188.0	5198.2	5212.0	5193.1	5182.8	5155.4	5134.8	5124.5	5129.7	5136.5
40°	5558.2	5559.9	5589.0	5592.4	5571.9	5559.9	5532.5	5501.6	5472.5	5472.5	5481.0
42.5°	5938.6	5943.8	5978.1	5990.1	5983.2	5960.9	5923.2	5885.5	5847.8	5854.7	5864.9
45°	6368.8	6362.0	6398.0	6427.1	6422.0	6415.1	6379.1	6310.6	6276.3	6274.6	6291.7
47.5°	6821.3	6835.0	6872.7	6922.4	6920.7	6903.6	6857.3	6793.9	6730.5	6735.6	6756.2
50°	7349.2	7368.0	7431.4	7481.1	7488.0	7482.9	7428.0	7354.3	7265.2	7270.3	7297.8
52.5°	7822.2	7849.6	7923.3	8026.2	8089.6	8118.7	8082.7	8014.2	7923.3	7928.5	7957.6
55°	8250.7	8293.5	8403.2	8543.8	8670.6	8788.8	8842.0	8840.3	8773.4	8788.8	8826.6
57.5°	8519.8	8579.8	8746.0	8972.2	9224.2	9462.4	9668.1	9861.7	9904.6	9985.1	9985.1
60°	8158.1	8298.7	8519.8	8907.1	9402.4	9937.2	10516.5	11080.3	11443.7	11729.9	11575.6
62.5°	6812.7	7020.1	7330.3	7841.1	8612.3	9567.0	10730.7	12041.8	13409.5	14245.9	13632.3
65°	4408.1	4668.6	5006.3	5580.4	6552.2	7781.1	9476.1	11832.7	14694.9	16179.2	14808.0
67.5°	1746.5	1923.0	2128.7	2536.6	3379.8	4586.4	6488.8	9395.6	12975.9	14376.1	12838.8
70°	834.7	863.8	903.2	990.6	1201.4	1621.3	2606.8	4629.2	7957.6	9433.3	7767.4
72.5°	603.3	608.4	627.3	656.4	718.1	803.8	976.9	1415.7	2743.9	3989.9	2747.4
75°	457.6	464.5	474.7	490.2	522.7	563.9	629.0	754.1	939.2	1083.2	937.5
77.5°	347.9	354.8	363.3	378.8	395.9	425.0	449.0	498.7	577.6	608.4	605.0
80°	253.7	265.7	279.4	293.1	305.1	318.8	320.5	344.5	389.1	418.2	409.6
82.5°	161.1	171.4	207.4	222.8	224.5	227.9	226.2	227.9	251.9	272.5	265.7
85°	102.8	109.7	128.5	145.7	142.3	149.1	149.1	145.7	135.4	116.5	138.8
87.5°	51.4	53.1	61.7	77.1	73.7	65.1	63.4	63.4	46.3	39.4	42.8
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°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3121.0	3124.4	3119.3	3119.3	3117.6	3121.0	3115.9	3115.9
5°	3145.0	3150.1	3148.4	3148.4	3151.9	3155.3	3153.6	3151.9
7.5°	3187.8	3191.3	3194.7	3196.4	3199.8	3198.1	3201.6	3199.8
10°	3253.0	3249.5	3254.7	3249.5	3251.3	3247.8	3249.5	3249.5
12.5°	3335.2	3330.1	3326.7	3323.2	3323.2	3316.4	3316.4	3318.1
15°	3429.5	3420.9	3414.1	3410.6	3407.2	3407.2	3402.1	3405.5
17.5°	3522.1	3513.5	3501.5	3501.5	3496.3	3492.9	3489.5	3498.1
20°	3619.7	3611.2	3604.3	3602.6	3592.3	3588.9	3590.6	3600.9
22.5°	3732.9	3727.7	3727.7	3724.3	3717.4	3712.3	3712.3	3724.3
25°	3885.4	3875.1	3876.8	3878.5	3875.1	3875.1	3871.7	3880.3
27.5°	4072.2	4063.6	4068.8	4072.2	4068.8	4073.9	4068.8	4075.6
30°	4291.6	4286.4	4291.6	4296.7	4288.2	4288.2	4284.7	4289.9
32.5°	4553.8	4547.0	4550.4	4550.4	4538.4	4528.1	4514.4	4524.7
35°	4841.8	4833.2	4840.0	4845.2	4831.5	4821.2	4800.6	4809.2
37.5°	5158.8	5162.2	5170.8	5193.1	5189.7	5172.5	5157.1	5164.0
40°	5513.6	5530.7	5568.4	5583.9	5580.4	5563.3	5542.7	5546.2
42.5°	5914.6	5936.9	5976.3	6002.1	5990.1	5966.1	5940.4	5950.6
45°	6351.7	6386.0	6437.4	6463.1	6447.7	6422.0	6386.0	6404.8
47.5°	6814.4	6883.0	6951.6	6985.8	6980.7	6944.7	6898.4	6903.6
50°	7368.0	7458.9	7546.3	7580.6	7554.8	7500.0	7434.9	7433.2
52.5°	8057.0	8154.7	8226.7	8218.1	8154.7	8069.0	7995.3	7991.9
55°	8917.4	8950.0	8939.7	8866.0	8754.6	8620.9	8526.6	8511.2
57.5°	9957.7	9848.0	9686.9	9464.1	9213.9	8960.2	8788.8	8725.4
60°	11229.4	10734.1	10158.3	9551.5	8997.9	8583.2	8321.0	8161.6
62.5°	12280.1	10845.5	9558.4	8504.3	7642.3	7129.8	6771.6	6550.5
65°	11920.1	9369.9	7505.1	6146.0	5205.1	4675.5	4296.7	4044.8
67.5°	9208.8	6260.9	4356.7	3019.9	2289.8	1938.4	1693.3	1533.9
70°	4642.9	2401.2	1455.1	1026.6	877.5	815.8	774.7	750.7
72.5°	1362.5	910.1	755.8	668.4	615.3	577.6	553.6	541.6
75°	754.1	615.3	543.3	493.6	459.3	433.6	418.2	407.9
77.5°	519.3	447.3	411.3	378.8	351.3	332.5	320.5	310.2
80°	363.3	327.4	311.9	294.8	274.2	258.8	241.7	234.8
82.5°	241.7	226.2	222.8	209.1	197.1	180.0	149.1	138.8
85°	142.3	140.5	140.5	135.4	126.8	111.4	89.1	89.1
87.5°	49.7	51.4	53.1	56.6	54.8	46.3	37.7	36.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)