

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: P195935

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195935
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-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 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: 35935.2 lumens
Efficiency: N/A
Efficacy: 112.3 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

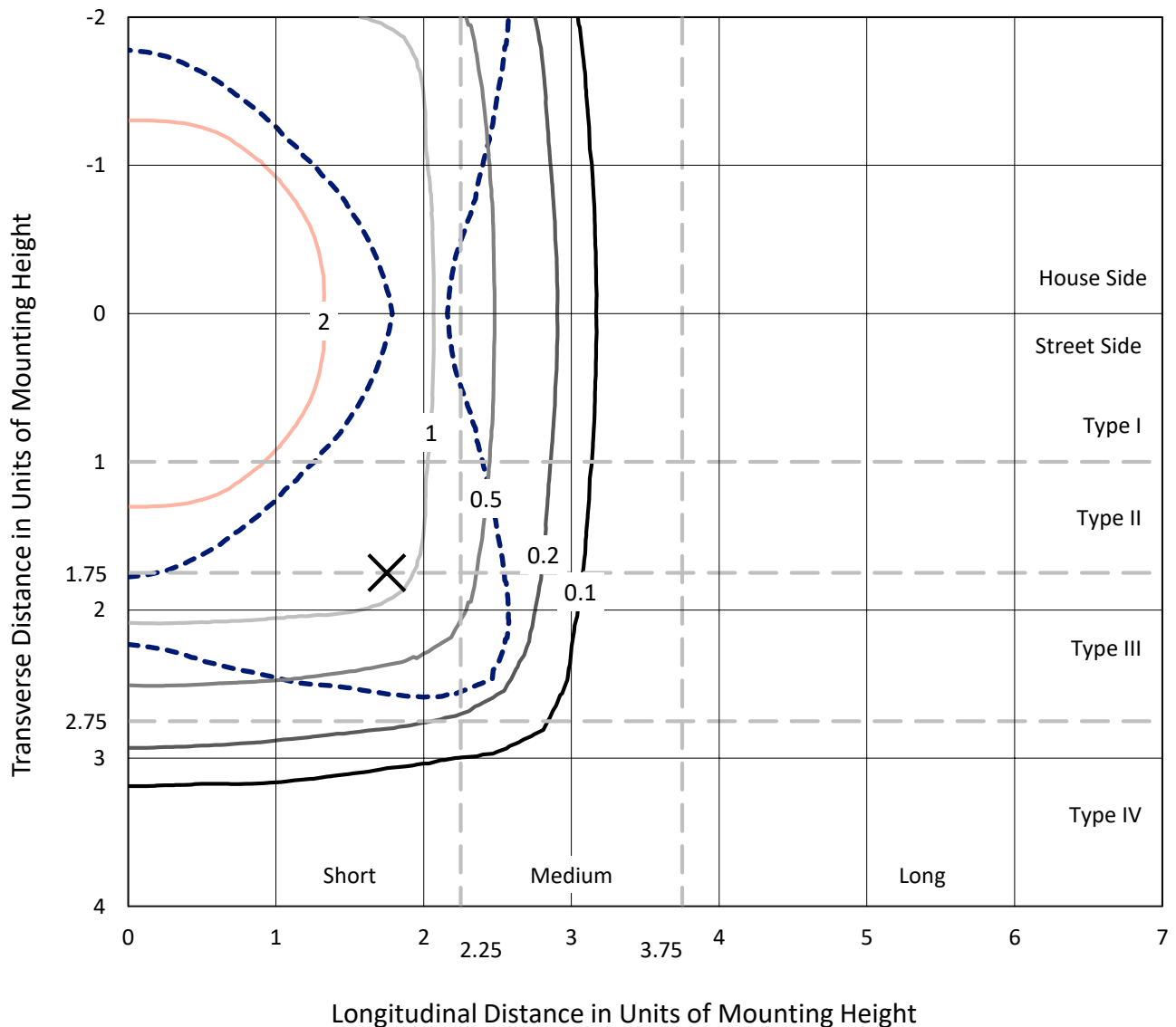
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P195935
 CATALOG NUMBER: NAV-AF-05-D-UNV-5MQ-1200

Iso-Footcandle Lines of Horizontal Illumination

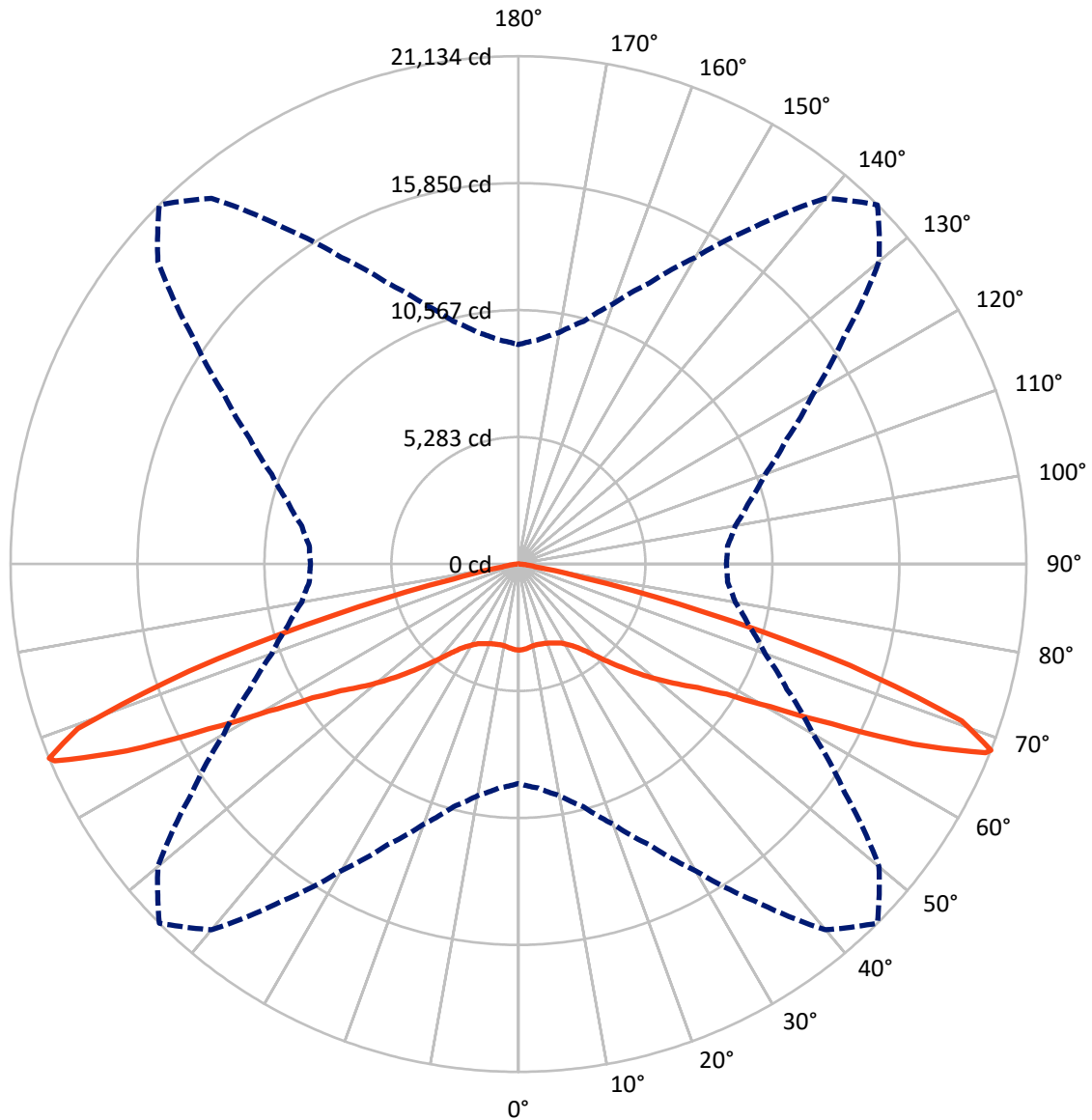
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 4 fc
 Type V - Short - Full Cutoff

REPORT NUMBER: P195935
CATALOG NUMBER: NAV-AF-05-D-UNV-5MQ-1200

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	17967.6	0.0	17967.6
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	17967.6	0.0	17967.6
	% Fixture	50.0	0.0	50.0
Total	Lumens	35935.2	0.0	35935.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	335.4	0.9
10°-20°	972.8	2.7
20°-30°	1653.8	4.6
30°-40°	2706.5	7.5
40°-50°	4836.9	13.5
50°-60°	8168.7	22.7
60°-70°	12666.7	35.2
70°-80°	4355.1	12.1
80°-90°	239.3	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°	35935.2	100.0
0°-180°	35935.2	100.0



REPORT NUMBER: P195935

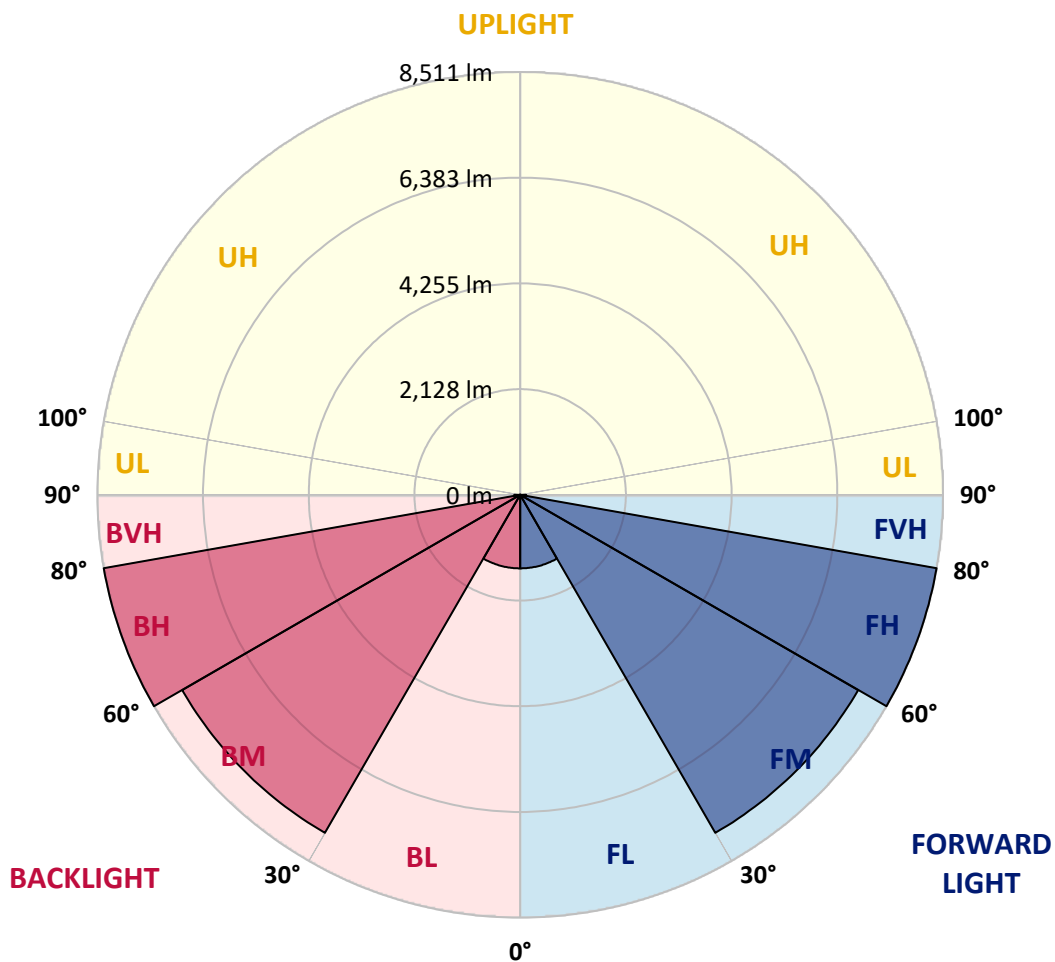
CATALOG NUMBER: NAV-AF-05-D-UNV-5MQ-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1481.0	4.1			
FM	(30°-60°)	7856.0	21.9			
FH	(60°-80°)	8510.9	23.7			G4/12000
FVH	(80°-90°)	119.7	0.3			G2/225
BL	(0°-30°)	1481.0	4.1	B3/2500		
BM	(30°-60°)	7856.0	21.9	B4/8500		
BH	(60°-80°)	8510.9	23.7	B5		G4/12000
BVH	(80°-90°)	119.7	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





REPORT NUMBER: P195935

CATALOG NUMBER: NAV-AF-05-D-UNV-5MQ-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3584.6	3584.6	3584.6	3584.6	3584.6	3584.6	3584.6	3584.6	3584.6	3584.6	3584.6
2.5°	3600.1	3600.1	3604.5	3602.2	3595.7	3589.0	3582.5	3575.8	3571.4	3567.0	3562.6
5°	3562.6	3562.6	3569.3	3564.9	3560.5	3553.8	3549.4	3542.9	3538.4	3534.0	3536.2
7.5°	3514.2	3518.6	3523.0	3520.8	3512.0	3509.8	3503.2	3501.0	3496.7	3490.0	3492.3
10°	3472.4	3474.7	3479.1	3476.8	3474.7	3468.0	3465.9	3463.6	3461.5	3452.7	3450.4
12.5°	3430.6	3435.0	3439.4	3441.6	3439.4	3441.6	3443.8	3446.0	3443.8	3439.4	3439.4
15°	3397.6	3402.0	3408.6	3415.2	3417.4	3430.6	3439.4	3448.3	3454.8	3457.1	3450.4
17.5°	3380.0	3386.6	3395.4	3408.6	3419.6	3435.0	3450.4	3463.6	3474.7	3476.8	3470.3
20°	3377.8	3384.4	3397.6	3413.0	3432.8	3452.7	3476.8	3496.7	3507.6	3514.2	3507.6
22.5°	3393.2	3402.0	3419.6	3439.4	3463.6	3490.0	3520.8	3542.9	3564.9	3573.7	3567.0
25°	3437.2	3446.0	3465.9	3490.0	3516.4	3549.4	3580.2	3608.9	3630.9	3641.9	3633.0
27.5°	3529.6	3531.8	3553.8	3580.2	3611.0	3639.7	3679.2	3692.4	3710.0	3721.1	3710.0
30°	3659.5	3663.9	3683.6	3725.5	3754.1	3791.5	3813.5	3826.7	3846.5	3857.5	3844.4
32.5°	3857.5	3861.9	3879.5	3919.1	3945.5	3974.2	4000.6	4009.4	4029.2	4042.4	4026.9
35°	4137.0	4145.8	4161.2	4187.6	4209.5	4231.6	4251.4	4244.8	4258.0	4275.6	4260.2
37.5°	4519.9	4517.7	4522.1	4541.9	4563.9	4577.1	4607.9	4592.4	4605.7	4621.1	4612.3
40°	4966.5	4966.5	4964.4	4999.6	5008.4	5021.6	5054.6	5034.8	5052.4	5069.9	5054.6
42.5°	5474.9	5483.7	5494.7	5523.3	5547.5	5551.9	5567.3	5558.5	5580.5	5596.0	5580.5
45°	6060.3	6073.5	6086.7	6152.6	6163.7	6172.5	6183.4	6154.9	6179.0	6192.2	6187.8
47.5°	6667.6	6691.7	6720.4	6788.6	6832.6	6852.4	6861.2	6828.2	6830.4	6850.2	6852.4
50°	7354.1	7380.6	7409.1	7486.2	7528.0	7563.2	7574.2	7536.8	7541.2	7556.5	7560.9
52.5°	7987.9	8018.7	8080.3	8183.7	8243.1	8304.7	8309.1	8263.0	8282.7	8293.8	8285.0
55°	8584.2	8623.9	8705.2	8843.9	8951.7	9072.8	9127.8	9077.2	9077.2	9068.4	9064.0
57.5°	9279.6	9323.6	9407.3	9567.9	9717.5	9891.3	10041.0	10091.6	10184.0	10214.8	10166.4
60°	10327.0	10373.2	10459.1	10670.3	10859.5	11112.6	11359.1	11559.3	11885.1	12061.0	11902.6
62.5°	11284.3	11354.7	11557.1	11926.8	12336.1	12804.8	13348.4	13735.7	14327.6	14622.5	14224.1
65°	11066.4	11209.5	11605.6	12186.5	13031.5	14048.1	15155.0	16217.9	17441.3	18068.5	17258.7
67.5°	9666.9	9787.9	10214.8	10890.3	11944.4	13346.1	15066.9	17267.5	19791.4	20966.6	19534.1
68°	9132.2	9358.8	9783.5	10454.7	11517.5	12895.0	14732.4	17109.1	19864.1	21133.8	19586.8
70°	7002.1	7083.4	7490.6	8093.5	9240.0	10591.1	12446.1	15155.0	18268.7	19575.8	17984.8
72.5°	3327.1	3375.6	3639.7	4233.8	4962.1	6062.4	7699.6	10254.5	13060.1	14420.0	12833.4
75°	1219.1	1230.1	1291.7	1432.5	1705.4	2119.1	2904.7	4493.4	6652.1	7932.9	6678.5
77.5°	658.0	660.1	684.4	719.5	768.0	823.0	941.8	1263.1	2037.7	2772.6	2152.1
80°	413.7	411.5	435.7	464.3	497.4	523.8	534.7	572.1	644.8	754.7	693.2
82.5°	211.2	231.1	286.0	316.9	365.3	374.1	363.0	360.9	382.9	413.7	426.9
85°	116.6	103.4	151.8	202.4	220.0	226.7	228.8	215.6	211.2	206.8	217.9
87.5°	59.4	55.0	66.0	101.3	107.8	88.0	90.2	77.0	52.8	52.8	55.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P195935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	3584.6	3584.6	3584.6	3584.6	3584.6	3584.6	3584.6	3584.6
2.5°	3558.2	3560.5	3556.1	3556.1	3556.1	3558.2	3556.1	3553.8
5°	3529.6	3534.0	3534.0	3536.2	3538.4	3538.4	3538.4	3538.4
7.5°	3487.9	3490.0	3494.4	3494.4	3494.4	3494.4	3494.4	3494.4
10°	3448.3	3443.8	3441.6	3437.2	3437.2	3430.6	3432.8	3435.0
12.5°	3428.4	3419.6	3415.2	3408.6	3404.2	3397.6	3397.6	3399.8
15°	3437.2	3424.0	3410.8	3406.4	3402.0	3397.6	3393.2	3395.4
17.5°	3454.8	3439.4	3424.0	3415.2	3406.4	3399.8	3397.6	3399.8
20°	3492.3	3470.3	3446.0	3430.6	3413.0	3408.6	3402.0	3408.6
22.5°	3542.9	3516.4	3485.6	3457.1	3437.2	3428.4	3419.6	3426.2
25°	3604.5	3575.8	3545.0	3512.0	3490.0	3483.5	3472.4	3472.4
27.5°	3690.3	3666.1	3639.7	3608.9	3586.9	3580.2	3562.6	3562.6
30°	3826.7	3802.5	3778.3	3751.9	3729.9	3723.2	3701.2	3701.2
32.5°	4007.1	3980.7	3965.4	3943.4	3925.8	3914.7	3888.3	3886.1
35°	4249.2	4225.0	4222.8	4207.4	4189.8	4192.0	4165.6	4161.2
37.5°	4596.9	4577.1	4583.6	4570.4	4555.1	4568.3	4552.8	4552.8
40°	5041.4	5034.8	5041.4	5032.6	5034.8	5037.0	5023.8	5028.2
42.5°	5578.4	5560.8	5600.3	5596.0	5589.3	5606.9	5576.1	5554.1
45°	6196.6	6190.1	6229.7	6236.3	6223.1	6234.1	6179.0	6176.9
47.5°	6867.8	6867.8	6903.1	6898.7	6885.4	6887.6	6821.6	6779.8
50°	7567.6	7563.2	7598.4	7589.6	7572.0	7569.8	7501.6	7459.8
52.5°	8295.9	8295.9	8346.6	8322.3	8280.6	8260.7	8177.2	8122.1
55°	9101.4	9090.4	9105.8	9026.5	8945.1	8885.7	8782.2	8740.5
57.5°	10120.2	9992.6	9882.5	9781.4	9666.9	9596.5	9475.4	9431.4
60°	11565.9	11224.8	11077.4	10875.0	10685.7	10591.1	10430.4	10344.7
62.5°	13568.4	13002.8	12602.3	12155.6	11724.3	11420.7	11176.5	11068.6
65°	15883.4	14651.1	13632.3	12675.0	11863.0	11218.3	10859.5	10747.3
67.5°	16763.6	14501.5	12743.2	11370.1	10384.3	9616.2	9187.1	9097.0
68°	16576.5	14158.2	12331.7	10925.6	9935.3	9160.7	8733.9	8652.4
70°	14622.5	11944.4	10016.7	8617.2	7693.0	6955.9	6654.4	6524.6
72.5°	9968.3	7671.0	5884.2	4706.9	4015.9	3549.4	3272.2	3177.6
75°	4588.0	3100.6	2070.7	1547.0	1313.7	1201.5	1115.6	1093.6
77.5°	1337.9	972.6	836.2	774.6	728.3	688.8	660.1	658.0
80°	636.0	596.4	578.8	539.1	497.4	459.9	433.5	437.9
82.5°	426.9	415.9	415.9	376.2	310.3	266.3	220.0	198.0
85°	226.7	235.5	248.7	235.5	204.7	151.8	99.0	107.8
87.5°	77.0	88.0	92.4	90.2	81.4	61.6	46.2	46.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)