

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: P196110

Luminaire Tested: **NAV-AF-06-D-UNV-SL3-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196110
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-SL3-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20609.4 lumens
Efficiency: N/A
Efficacy: 106.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G4

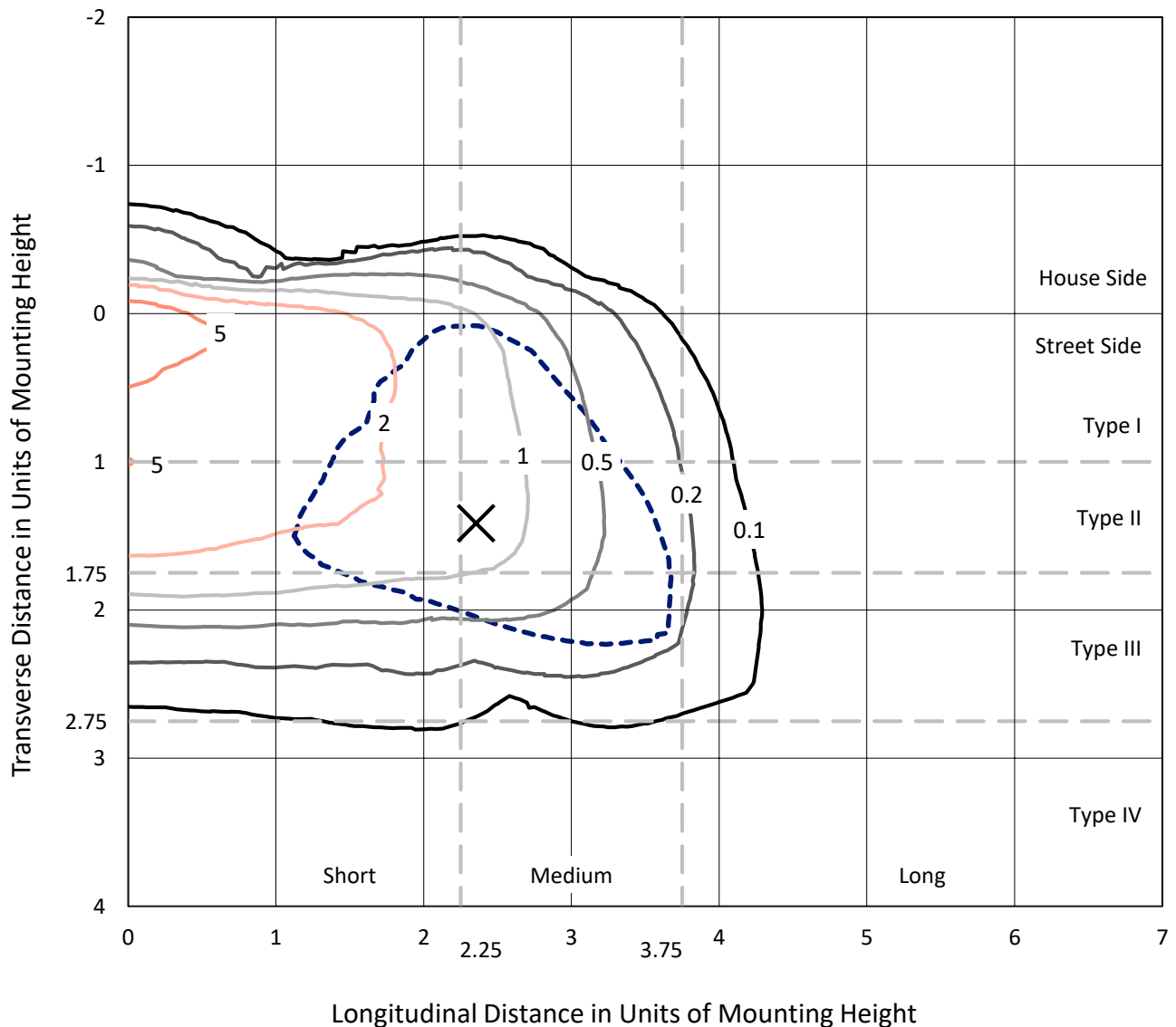
Input Watts (W): 193
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

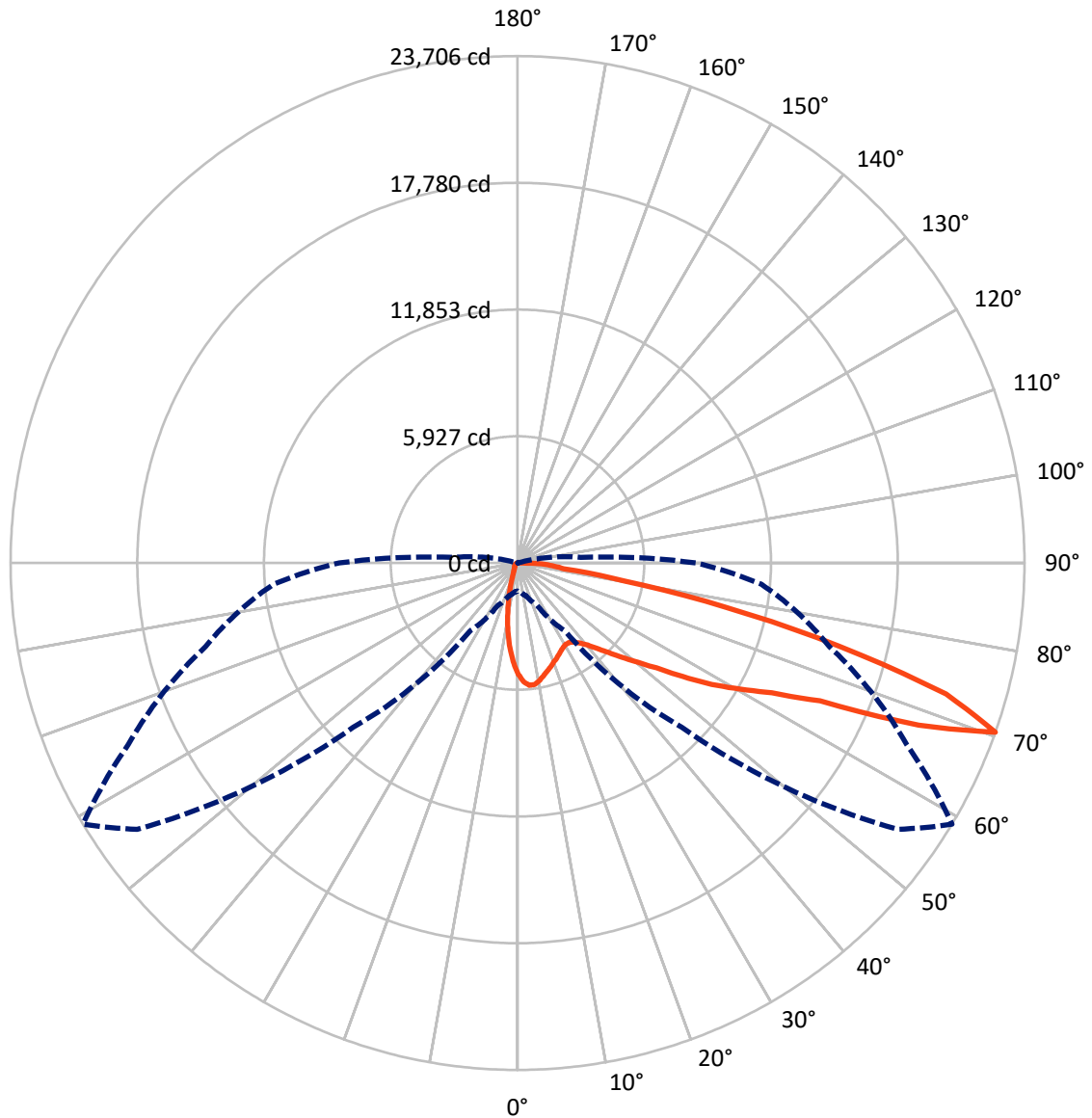
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.9 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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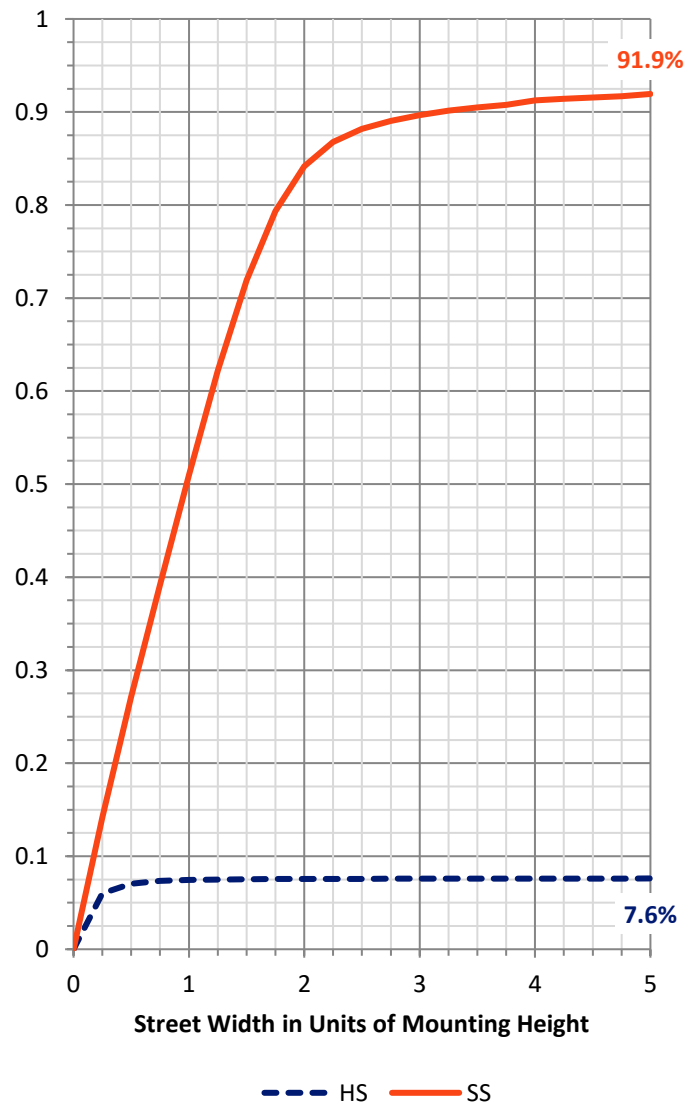
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1584.3	0.0	1584.3
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	19025.1	0.0	19025.1
	% Fixture	92.3	0.0	92.3
Total	Lumens	20609.4	0.0	20609.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	428.5	2.1
10°-20°	898.8	4.4
20°-30°	1216.7	5.9
30°-40°	1755.9	8.5
40°-50°	2916.1	14.1
50°-60°	4460.6	21.6
60°-70°	5547.9	26.9
70°-80°	3066.8	14.9
80°-90°	318.0	1.5
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°	20609.4	100.0
0°-180°	20609.4	100.0



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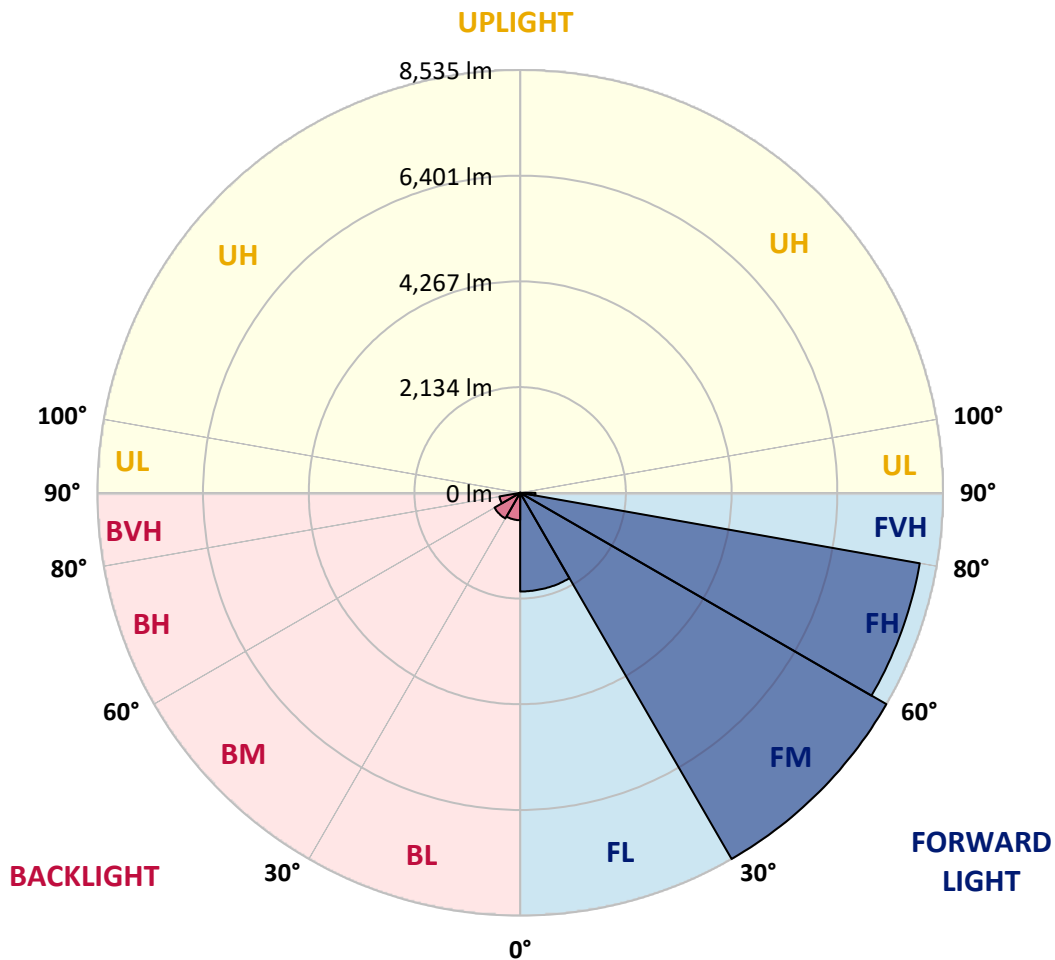
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1992.0	9.7			
FM	(30°-60°)	8534.6	41.4			
FH	(60°-80°)	8189.7	39.7			G4/12000
FVH	(80°-90°)	308.8	1.5			G3/500
BL	(0°-30°)	552.1	2.7	B2/1000		
BM	(30°-60°)	598.0	2.9	B1/1000		
BH	(60°-80°)	425.0	2.1	B1/500		G1/500
BVH	(80°-90°)	9.2	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	5211.4	5211.4	5211.4	5211.4	5211.4	5211.4	5211.4	5211.4	5211.4	5211.4	5211.4
2.5°	5890.8	5881.5	5842.6	5834.8	5791.2	5704.2	5603.1	5562.7	5480.4	5349.7	5205.2
5°	5988.8	5993.4	5996.5	5979.4	5973.2	5901.7	5789.7	5741.5	5631.1	5416.6	5152.3
7.5°	5621.8	5634.2	5673.1	5690.3	5764.8	5792.9	5769.5	5738.4	5651.4	5397.9	5026.4
10°	5234.6	5258.0	5300.0	5327.9	5419.7	5494.4	5589.2	5597.0	5578.3	5335.7	4884.9
12.5°	4902.0	4923.8	4970.4	5026.4	5119.7	5216.0	5357.5	5407.2	5469.4	5295.3	4783.8
15°	4616.0	4622.1	4667.2	4737.2	4860.0	4992.2	5160.1	5233.1	5354.4	5279.8	4706.1
17.5°	4365.6	4367.2	4396.7	4460.5	4609.7	4783.8	4979.7	5076.1	5230.0	5258.0	4637.6
20°	4200.8	4199.2	4200.8	4235.0	4367.2	4573.9	4811.9	4912.8	5110.4	5231.6	4567.7
22.5°	4144.9	4137.1	4101.3	4088.8	4172.8	4354.7	4639.3	4771.3	5003.0	5223.8	4516.4
25°	4213.2	4208.6	4132.4	4060.9	4068.7	4182.1	4463.5	4625.3	4919.1	5251.8	4504.0
27.5°	4434.0	4424.7	4308.1	4168.1	4079.5	4099.8	4333.0	4502.4	4852.3	5320.2	4521.0
30°	4723.2	4724.7	4600.4	4430.9	4222.5	4107.6	4263.0	4423.1	4807.2	5422.8	4558.4
32.5°	5045.0	5043.5	4954.9	4759.0	4493.1	4250.6	4294.1	4429.4	4813.4	5573.6	4629.9
35°	5377.8	5360.7	5331.1	5158.5	4847.6	4500.9	4435.6	4535.0	4878.7	5772.6	4751.2
37.5°	5761.8	5755.5	5785.1	5603.1	5286.0	4869.3	4684.3	4751.2	5043.5	6066.5	4947.1
40°	6372.8	6338.5	6352.5	6105.4	5780.4	5365.3	5032.6	5049.7	5306.3	6455.1	5256.4
42.5°	7537.2	7398.8	7139.2	6675.9	6324.5	5915.6	5488.1	5458.6	5677.8	6926.2	5663.8
45°	8928.7	8770.1	8115.6	7305.6	6868.7	6506.5	6051.0	5971.6	6134.8	7487.5	6189.3
47.5°	10090.1	9919.0	9051.5	7963.2	7422.1	7115.9	6674.3	6581.1	6682.1	8138.9	6820.5
50°	10486.5	10391.6	9629.9	8510.4	7980.3	7800.0	7456.4	7300.9	7325.8	8841.6	7557.5
52.5°	10304.6	10272.0	9762.0	8885.1	8496.4	8555.6	8313.0	8149.7	8121.8	9609.6	8372.1
55°	9920.6	9905.0	9656.2	9093.5	8951.9	9247.4	9514.8	9373.3	9109.1	10425.8	9045.2
57.5°	9371.8	9430.9	9609.6	9494.6	9511.7	9978.1	10631.1	10704.2	10309.3	11075.7	9544.3
60°	7905.7	8064.2	8883.6	9925.3	10722.8	11193.8	11826.6	11963.4	11326.0	11520.4	10121.2
62.5°	5844.1	6071.1	7238.7	9152.5	11389.7	13505.7	13417.1	13356.5	12296.2	12115.8	11170.5
65°	3432.8	3698.7	4685.9	7151.7	10383.9	14992.1	16386.5	15547.0	13774.6	13353.4	12841.8
67.5°	1710.2	1711.7	2157.9	3774.8	7674.1	13955.0	20721.1	20236.0	16918.3	15177.0	13501.1
70°	1315.3	1351.0	1596.7	2193.7	3880.6	10869.0	21714.6	23706.2	20077.5	15096.2	11455.1
72.5°	1114.7	1138.0	1421.0	1909.1	2901.1	5967.0	18797.9	20954.3	19158.6	12754.8	8443.6
75°	802.2	820.9	1257.7	1732.0	2671.0	2960.1	12894.7	15540.9	14374.8	8972.2	4647.1
77.5°	199.0	197.4	438.4	1405.4	2389.6	2465.7	7398.8	9965.7	8247.7	3673.7	1194.0
80°	88.6	85.5	99.5	295.4	2223.2	2327.4	3254.0	5032.6	3163.8	595.5	365.4
82.5°	62.2	59.1	62.2	108.8	743.2	2159.4	1966.7	2181.2	1158.3	203.7	155.5
85°	20.3	18.6	34.2	91.8	208.4	1245.3	1918.5	1629.4	861.3	87.1	104.1
87.5°	3.1	3.1	12.5	49.7	60.7	415.1	1125.7	1128.7	387.1	51.4	46.6
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	5211.4	5211.4	5211.4	5211.4	5211.4	5211.4	5211.4	5211.4	5211.4	5211.4	5211.4
2.5°	5132.0	5040.4	4911.3	4782.3	4665.7	4546.0	4449.5	4404.5	4384.3	4356.2	4295.7
5°	5013.9	4847.6	4564.6	4286.4	4026.6	3778.0	3565.0	3443.7	3313.0	3306.9	3243.2
7.5°	4824.2	4587.9	4141.7	3709.5	3313.0	2933.7	2607.2	2395.8	2251.2	2161.1	2098.9
10°	4612.8	4309.7	3718.8	3111.0	2571.5	2064.6	1644.9	1371.3	1204.9	1120.9	1072.8
12.5°	4444.9	4064.0	3302.2	2537.3	1861.0	1279.5	889.3	690.3	601.7	567.4	551.9
15°	4300.3	3838.5	2911.9	2024.2	1242.2	735.4	514.6	449.3	435.4	435.4	433.7
17.5°	4154.2	3620.9	2532.6	1520.5	782.0	481.9	405.8	396.5	398.0	402.6	402.6
20°	4015.8	3414.1	2167.2	1083.6	513.0	385.6	368.5	365.4	370.0	376.2	374.7
22.5°	3903.9	3232.2	1825.3	744.7	394.9	349.8	338.9	334.3	337.4	342.1	340.4
25°	3824.6	3076.7	1511.2	519.2	343.6	318.8	306.3	300.0	297.0	300.0	298.5
27.5°	3776.4	2946.2	1215.8	390.3	307.8	287.7	272.1	259.6	251.9	251.9	248.8
30°	3745.3	2823.3	953.1	323.4	278.2	256.6	234.8	217.7	205.2	202.1	200.6
32.5°	3743.7	2717.7	712.1	286.0	250.3	225.5	199.0	177.3	163.3	160.1	158.6
35°	3782.6	2632.2	524.0	258.1	225.5	195.9	166.3	143.0	130.6	130.6	129.0
37.5°	3883.6	2582.3	396.5	236.3	205.2	171.0	139.9	118.2	107.3	110.4	110.4
40°	4071.8	2573.0	323.4	219.2	188.1	149.2	113.4	96.4	91.8	96.4	96.4
42.5°	4359.4	2622.7	287.7	206.7	172.6	127.5	94.8	82.4	80.8	85.5	85.5
45°	4734.1	2720.7	267.4	195.9	155.5	105.7	79.3	71.5	70.0	76.2	76.2
47.5°	5188.1	2852.9	248.8	183.4	138.4	87.1	66.9	60.7	60.7	66.9	68.4
50°	5726.0	3031.7	230.1	171.0	124.4	73.0	56.0	51.4	52.9	59.1	60.7
52.5°	6344.8	3250.9	213.0	160.1	108.8	59.1	46.6	43.6	45.1	51.4	52.9
55°	6878.0	3442.1	192.8	149.2	88.6	48.2	38.9	37.3	38.9	46.6	46.6
57.5°	7342.8	3625.5	174.1	132.2	70.0	38.9	31.1	31.1	34.2	41.9	43.6
60°	7960.1	3914.7	158.6	111.9	52.9	29.6	24.9	26.4	31.1	37.3	38.9
62.5°	9053.0	4406.1	138.4	93.3	38.9	23.3	20.3	21.8	28.0	35.8	37.3
65°	10421.2	4870.9	115.1	77.7	29.6	17.1	15.5	20.3	28.0	35.8	37.3
67.5°	10281.3	4236.6	90.1	62.2	21.8	14.0	12.5	18.6	26.4	35.8	37.3
70°	8337.9	2969.5	66.9	41.9	17.1	12.5	12.5	18.6	26.4	34.2	35.8
72.5°	5783.5	1652.7	51.4	28.0	15.5	12.5	10.8	17.1	24.9	34.2	35.8
75°	2751.8	506.9	40.4	20.3	14.0	10.8	9.3	17.1	24.9	34.2	35.8
77.5°	528.6	129.0	32.6	17.1	12.5	10.8	9.3	15.5	24.9	32.6	34.2
80°	178.8	57.5	26.4	15.5	12.5	10.8	9.3	15.5	23.3	31.1	32.6
82.5°	97.9	32.6	23.3	14.0	12.5	9.3	7.8	14.0	21.8	31.1	32.6
85°	76.2	23.3	18.6	14.0	12.5	9.3	7.8	14.0	21.8	29.6	31.1
87.5°	38.9	17.1	15.5	14.0	12.5	9.3	7.8	12.5	20.3	28.0	31.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)