

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: P196595

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-7030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196595
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-05-D-UNV-SL3-7030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 800mA 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: 19945.3 lumens
Efficiency: N/A
Efficacy: 95.0 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): 210
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

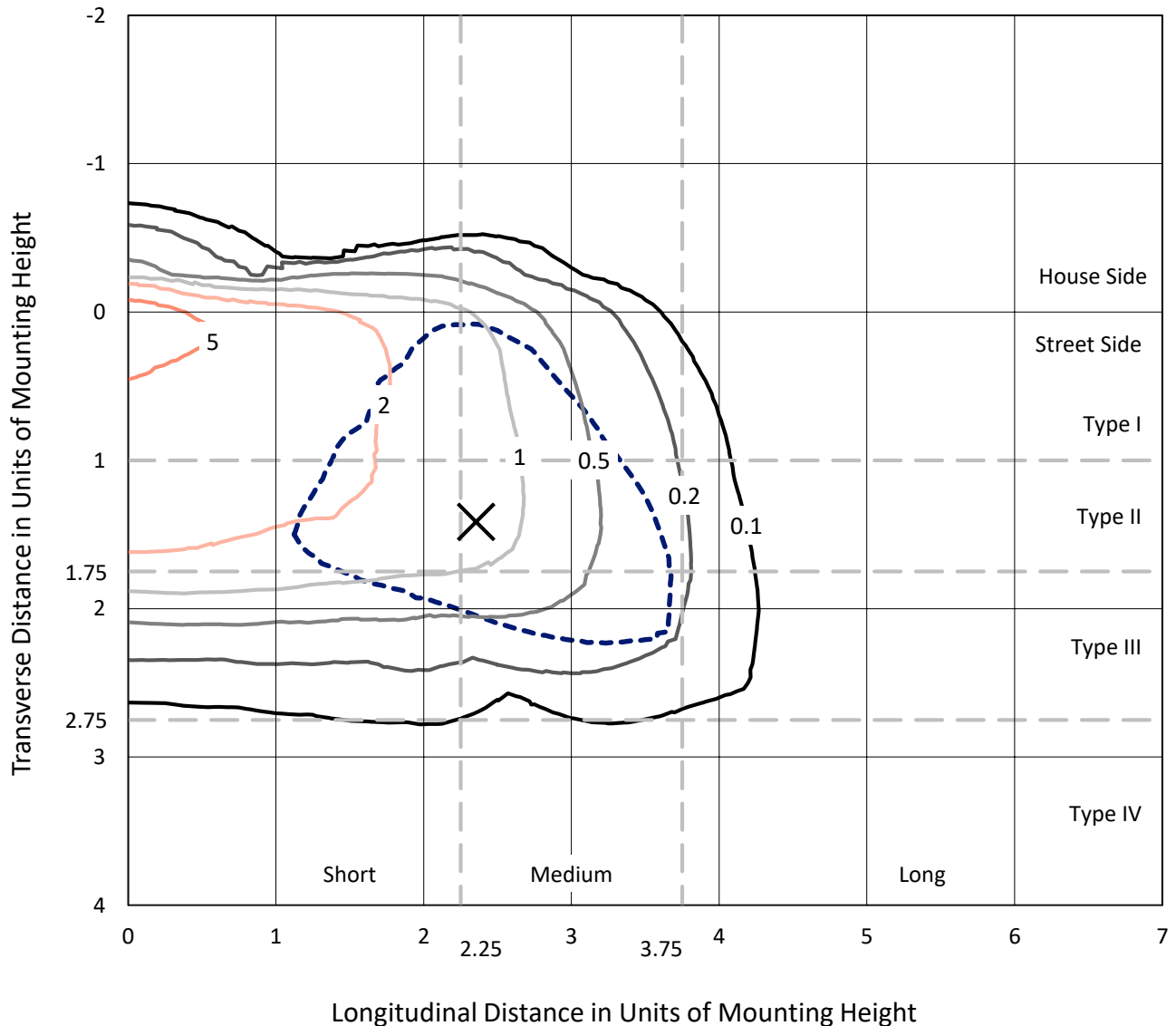


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Iso-Footcandle Lines of Horizontal Illumination

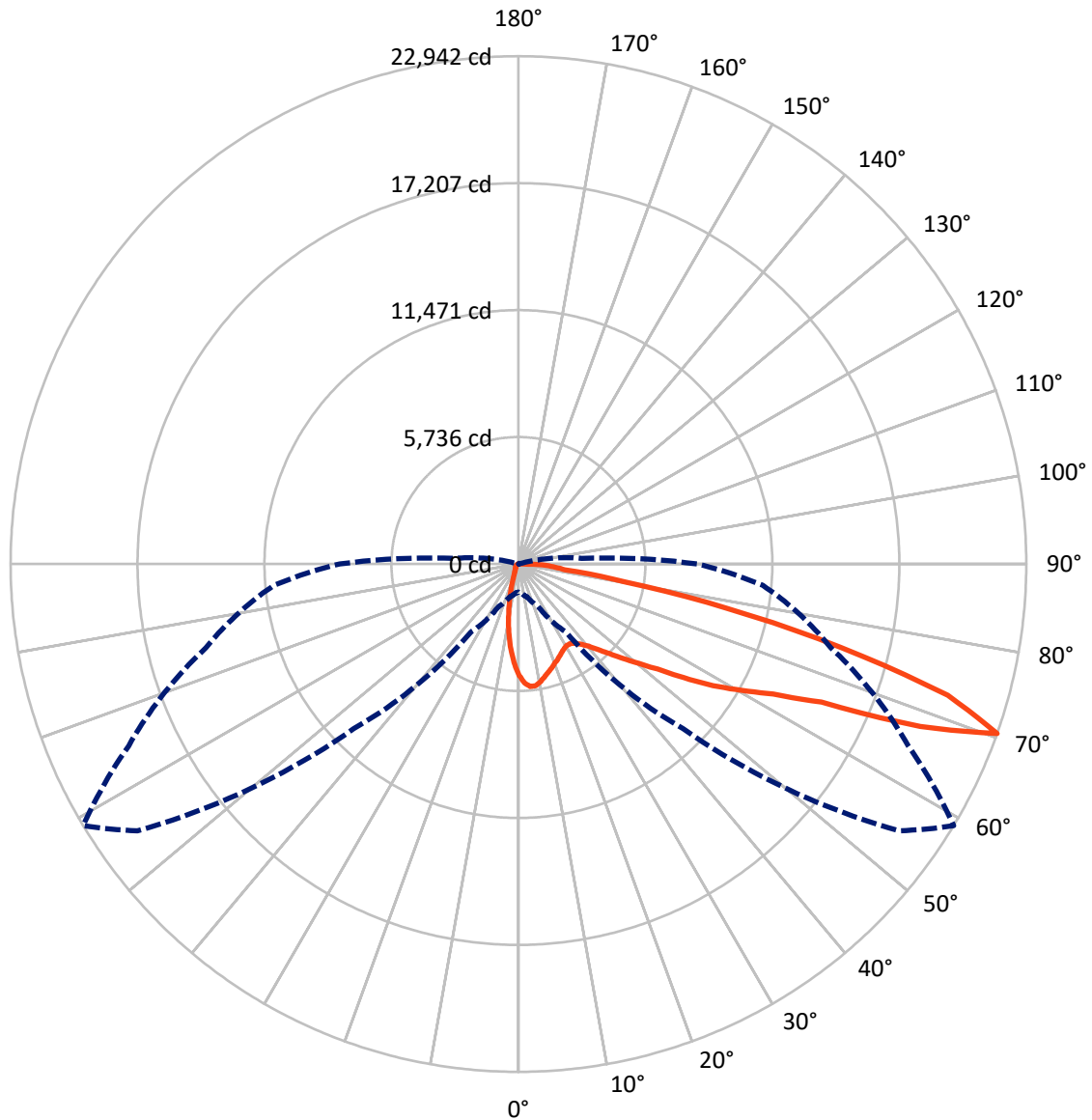
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.6 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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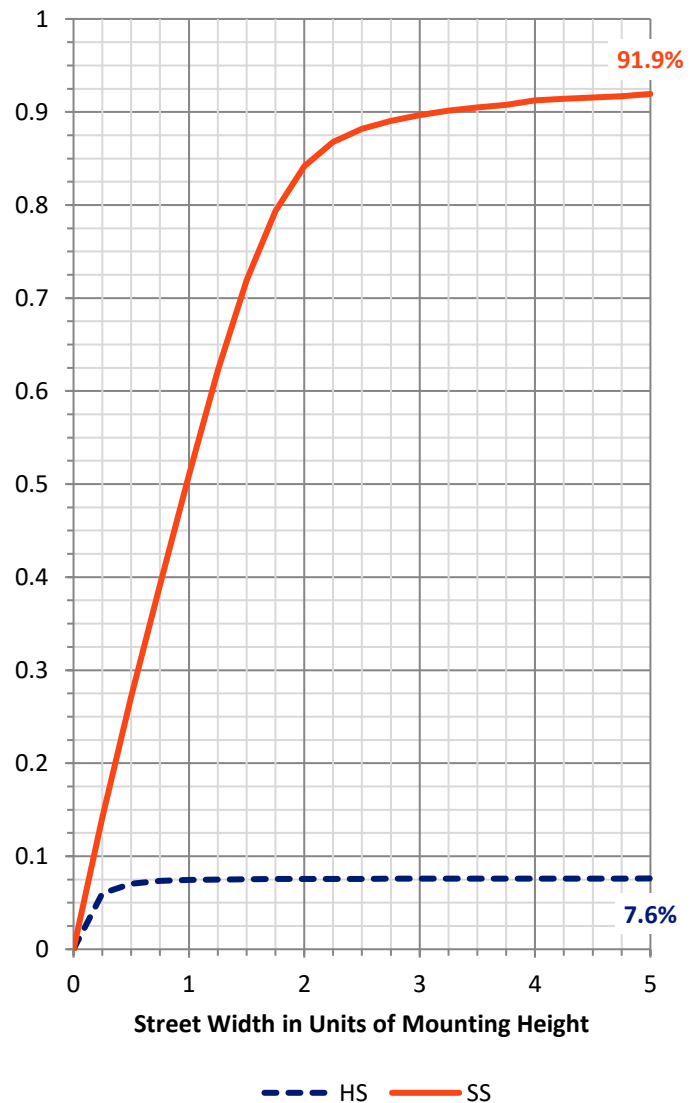
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1533.2	0.0	1533.2
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	18412.0	0.0	18412.0
	% Fixture	92.3	0.0	92.3
Total	Lumens	19945.3	0.0	19945.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	414.7	2.1
10°-20°	869.9	4.4
20°-30°	1177.5	5.9
30°-40°	1699.3	8.5
40°-50°	2822.2	14.1
50°-60°	4316.8	21.6
60°-70°	5369.1	26.9
70°-80°	2968.0	14.9
80°-90°	307.7	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°	19945.3	100.0
0°-180°	19945.3	100.0

Coefficient of Utilization



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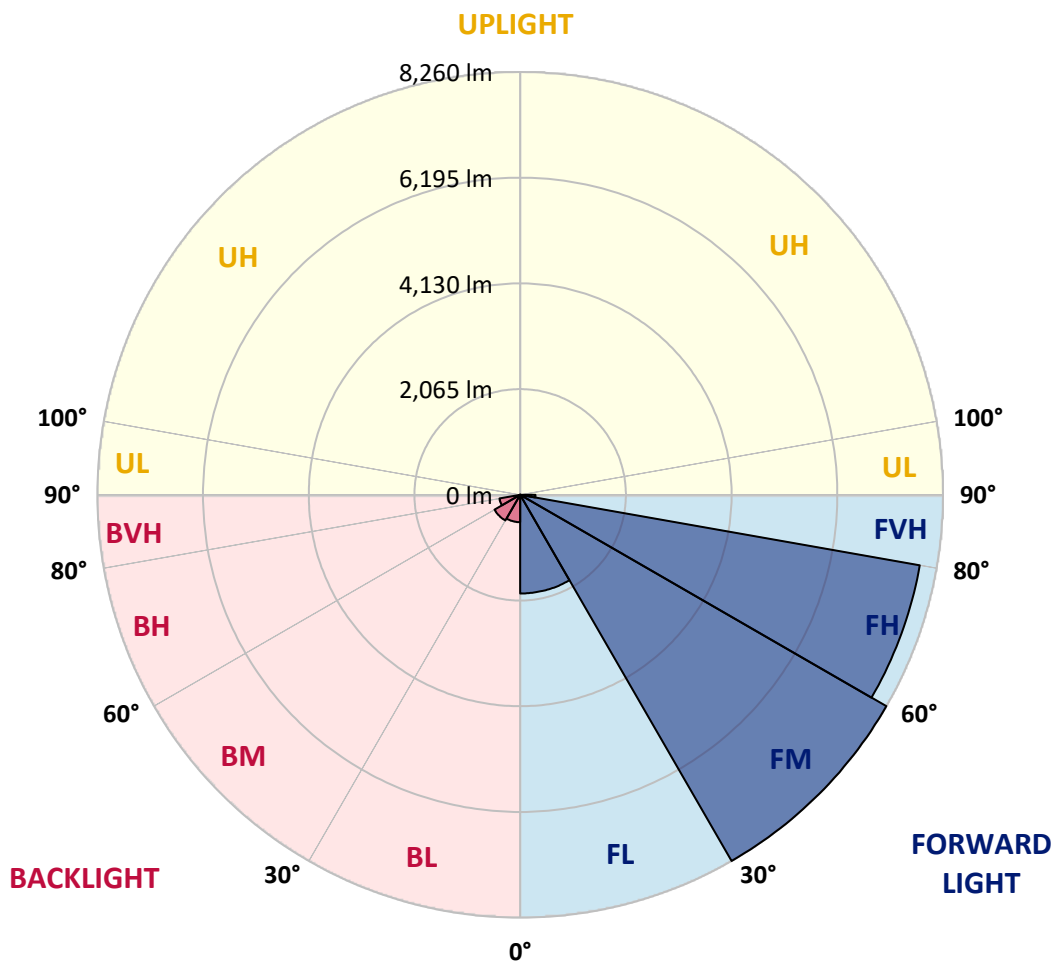
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1927.8	9.7			
FM	(30°-60°)	8259.5	41.4			
FH	(60°-80°)	7925.8	39.7			G4/12000
FVH	(80°-90°)	298.9	1.5			G3/500
BL	(0°-30°)	534.3	2.7	B2/1000		
BM	(30°-60°)	578.8	2.9	B1/1000		
BH	(60°-80°)	411.3	2.1	B1/500		G1/500
BVH	(80°-90°)	8.9	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°	5043.4	5043.4	5043.4	5043.4	5043.4	5043.4	5043.4	5043.4	5043.4	5043.4	5043.4
2.5°	5700.9	5692.0	5654.2	5646.7	5604.7	5520.5	5422.6	5383.5	5303.8	5177.4	5037.4
5°	5795.7	5800.2	5803.3	5786.7	5780.7	5711.5	5603.2	5556.5	5449.7	5242.0	4986.3
7.5°	5440.7	5452.7	5490.3	5506.8	5579.1	5606.2	5583.5	5553.5	5469.3	5224.0	4864.4
10°	5066.1	5088.5	5129.1	5156.3	5245.1	5317.3	5409.1	5416.6	5398.5	5163.8	4727.4
12.5°	4744.0	4765.2	4810.2	4864.4	4954.7	5048.0	5184.9	5233.0	5293.2	5124.7	4629.7
15°	4467.2	4473.2	4516.8	4584.5	4703.4	4831.3	4993.8	5064.5	5181.8	5109.6	4554.5
17.5°	4224.9	4226.4	4255.0	4316.8	4461.2	4629.7	4819.2	4912.6	5061.6	5088.5	4488.3
20°	4065.4	4063.9	4065.4	4098.6	4226.4	4426.5	4656.7	4754.5	4945.6	5063.0	4420.5
22.5°	4011.2	4003.8	3969.2	3957.2	4038.3	4214.4	4489.8	4617.7	4841.9	5055.4	4370.9
25°	4077.4	4072.9	3999.2	3930.0	3937.6	4047.4	4319.7	4476.3	4760.5	5082.5	4358.9
27.5°	4291.1	4282.1	4169.3	4033.9	3948.1	3967.6	4193.4	4357.4	4695.9	5148.8	4375.4
30°	4571.0	4572.5	4452.1	4288.1	4086.6	3975.2	4125.6	4280.6	4652.3	5248.0	4411.6
32.5°	4882.5	4880.9	4795.2	4605.6	4348.3	4113.6	4155.6	4286.7	4658.3	5394.0	4480.7
35°	5204.4	5187.8	5159.3	4992.3	4691.4	4355.8	4292.7	4389.0	4721.4	5586.7	4598.0
37.5°	5576.0	5570.0	5598.7	5422.6	5115.6	4712.5	4533.3	4598.0	4880.9	5870.9	4787.6
40°	6167.3	6134.3	6147.8	5908.6	5594.2	5192.4	4870.4	4886.9	5135.1	6247.1	5087.1
42.5°	7294.3	7160.5	6909.1	6460.8	6120.7	5725.0	5311.3	5282.6	5494.8	6703.0	5481.3
45°	8641.0	8487.5	7854.1	7070.1	6647.4	6296.8	5856.0	5779.2	5937.1	7246.2	5989.8
47.5°	9764.9	9599.4	8759.9	7706.6	7183.0	6886.6	6459.3	6369.0	6466.8	7876.6	6600.7
50°	10148.5	10056.8	9319.5	8236.2	7723.1	7548.6	7216.1	7065.7	7089.8	8556.7	7314.0
52.5°	9972.5	9941.0	9447.4	8598.8	8222.7	8279.8	8045.1	7887.1	7860.1	9299.9	8102.3
55°	9600.9	9585.9	9345.2	8800.4	8663.5	8949.4	9208.2	9071.2	8815.5	10089.9	8753.9
57.5°	9069.7	9127.0	9299.9	9188.6	9205.2	9656.6	10288.5	10359.2	9977.0	10718.8	9236.8
60°	7650.9	7804.4	8597.3	9605.4	10377.2	10833.2	11445.6	11577.9	10961.1	11149.2	9795.0
62.5°	5655.8	5875.5	7005.4	8857.6	11022.7	13070.5	12984.8	12926.0	11900.0	11725.3	10810.5
65°	3322.1	3579.5	4535.0	6921.2	10049.2	14509.0	15858.6	15046.1	13330.8	12923.0	12428.0
67.5°	1655.1	1656.6	2088.4	3653.2	7426.8	13505.3	20053.5	19583.9	16373.1	14687.9	13066.0
70°	1272.9	1307.5	1545.3	2123.0	3755.5	10518.7	21014.8	22942.3	19430.4	14609.7	11086.0
72.5°	1078.8	1101.4	1375.2	1847.7	2807.6	5774.7	18192.2	20279.1	18541.3	12343.8	8171.5
75°	776.4	794.5	1217.2	1676.1	2585.0	2864.8	12479.3	15040.1	13911.6	8683.1	4497.2
77.5°	192.7	191.1	424.3	1360.2	2312.6	2386.3	7160.5	9644.6	7981.9	3555.4	1155.5
80°	85.8	82.7	96.2	285.8	2151.7	2252.4	3149.2	4870.4	3061.9	576.3	353.6
82.5°	60.2	57.2	60.2	105.3	719.3	2089.9	1903.3	2111.0	1120.9	197.1	150.4
85°	19.5	18.0	33.1	88.7	201.6	1205.2	1856.7	1576.8	833.5	84.2	100.8
87.5°	3.1	3.1	12.0	48.2	58.7	401.7	1089.4	1092.4	374.6	49.6	45.2
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°	5043.4	5043.4	5043.4	5043.4	5043.4	5043.4	5043.4	5043.4	5043.4	5043.4	5043.4
2.5°	4966.7	4878.0	4753.1	4628.2	4515.3	4399.5	4306.2	4262.5	4243.0	4215.9	4157.2
5°	4852.3	4691.4	4417.6	4148.2	3897.0	3656.2	3450.1	3332.7	3206.3	3200.3	3138.6
7.5°	4668.7	4440.1	4008.2	3590.0	3206.3	2839.2	2523.3	2318.6	2178.6	2091.4	2031.2
10°	4464.2	4170.8	3599.0	3010.7	2488.6	1998.2	1591.9	1327.1	1166.2	1084.8	1038.2
12.5°	4301.6	3933.0	3195.9	2455.5	1801.0	1238.4	860.6	668.0	582.3	549.1	534.2
15°	4161.8	3715.0	2818.2	1959.0	1202.2	711.8	498.0	434.9	421.3	421.3	419.8
17.5°	4020.3	3504.3	2451.0	1471.5	756.8	466.4	392.7	383.7	385.1	389.7	389.7
20°	3886.4	3304.1	2097.4	1048.7	496.5	373.1	356.6	353.6	358.1	364.2	362.6
22.5°	3778.0	3128.1	1766.4	720.7	382.2	338.4	328.0	323.5	326.4	331.0	329.5
25°	3701.3	2977.7	1462.4	502.6	332.4	308.4	296.4	290.4	287.4	290.4	288.9
27.5°	3654.7	2851.2	1176.6	377.7	297.9	278.4	263.4	251.3	243.7	243.7	240.7
30°	3624.5	2732.3	922.3	312.9	269.4	248.2	227.2	210.7	198.7	195.6	194.1
32.5°	3623.1	2630.1	689.1	276.9	242.2	218.2	192.7	171.5	158.0	154.9	153.5
35°	3660.7	2547.3	507.1	249.7	218.2	189.6	160.9	138.4	126.4	126.4	124.9
37.5°	3758.5	2499.2	383.7	228.7	198.7	165.5	135.4	114.4	103.8	106.8	106.8
40°	3940.6	2490.1	312.9	212.2	182.0	144.4	109.8	93.3	88.7	93.3	93.3
42.5°	4218.9	2538.3	278.4	200.2	167.0	123.4	91.8	79.8	78.2	82.7	82.7
45°	4581.6	2633.0	258.8	189.6	150.4	102.2	76.7	69.2	67.7	73.8	73.8
47.5°	5020.9	2761.0	240.7	177.5	134.0	84.2	64.7	58.7	58.7	64.7	66.2
50°	5541.5	2933.9	222.7	165.5	120.4	70.7	54.2	49.6	51.2	57.2	58.7
52.5°	6140.3	3146.1	206.2	154.9	105.3	57.2	45.2	42.2	43.6	49.6	51.2
55°	6656.4	3331.2	186.7	144.4	85.8	46.7	37.5	36.2	37.5	45.2	45.2
57.5°	7106.2	3508.8	168.5	128.0	67.7	37.5	30.0	30.0	33.1	40.7	42.2
60°	7703.6	3788.6	153.5	108.3	51.2	28.6	24.0	25.5	30.0	36.2	37.5
62.5°	8761.3	4264.1	134.0	90.2	37.5	22.6	19.5	21.1	27.1	34.6	36.2
65°	10085.4	4713.9	111.3	75.3	28.6	16.5	15.1	19.5	27.1	34.6	36.2
67.5°	9949.9	4100.1	87.3	60.2	21.1	13.5	12.0	18.0	25.5	34.6	36.2
70°	8069.3	2873.8	64.7	40.7	16.5	12.0	12.0	18.0	25.5	33.1	34.6
72.5°	5597.2	1599.4	49.6	27.1	15.1	12.0	10.5	16.5	24.0	33.1	34.6
75°	2663.2	490.5	39.2	19.5	13.5	10.5	9.1	16.5	24.0	33.1	34.6
77.5°	511.6	124.9	31.5	16.5	12.0	10.5	9.1	15.1	24.0	31.5	33.1
80°	173.0	55.7	25.5	15.1	12.0	10.5	9.1	15.1	22.6	30.0	31.5
82.5°	94.8	31.5	22.6	13.5	12.0	9.1	7.5	13.5	21.1	30.0	31.5
85°	73.8	22.6	18.0	13.5	12.0	9.1	7.5	13.5	21.1	28.6	30.0
87.5°	37.5	16.5	15.1	13.5	12.0	9.1	7.5	12.0	19.5	27.1	30.0
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)