

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: P196600

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-7030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196600
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-04-D-UNV-SL3-7030-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 1050mA 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: 20030.5 lumens
Efficiency: N/A
Efficacy: 89.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G4

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

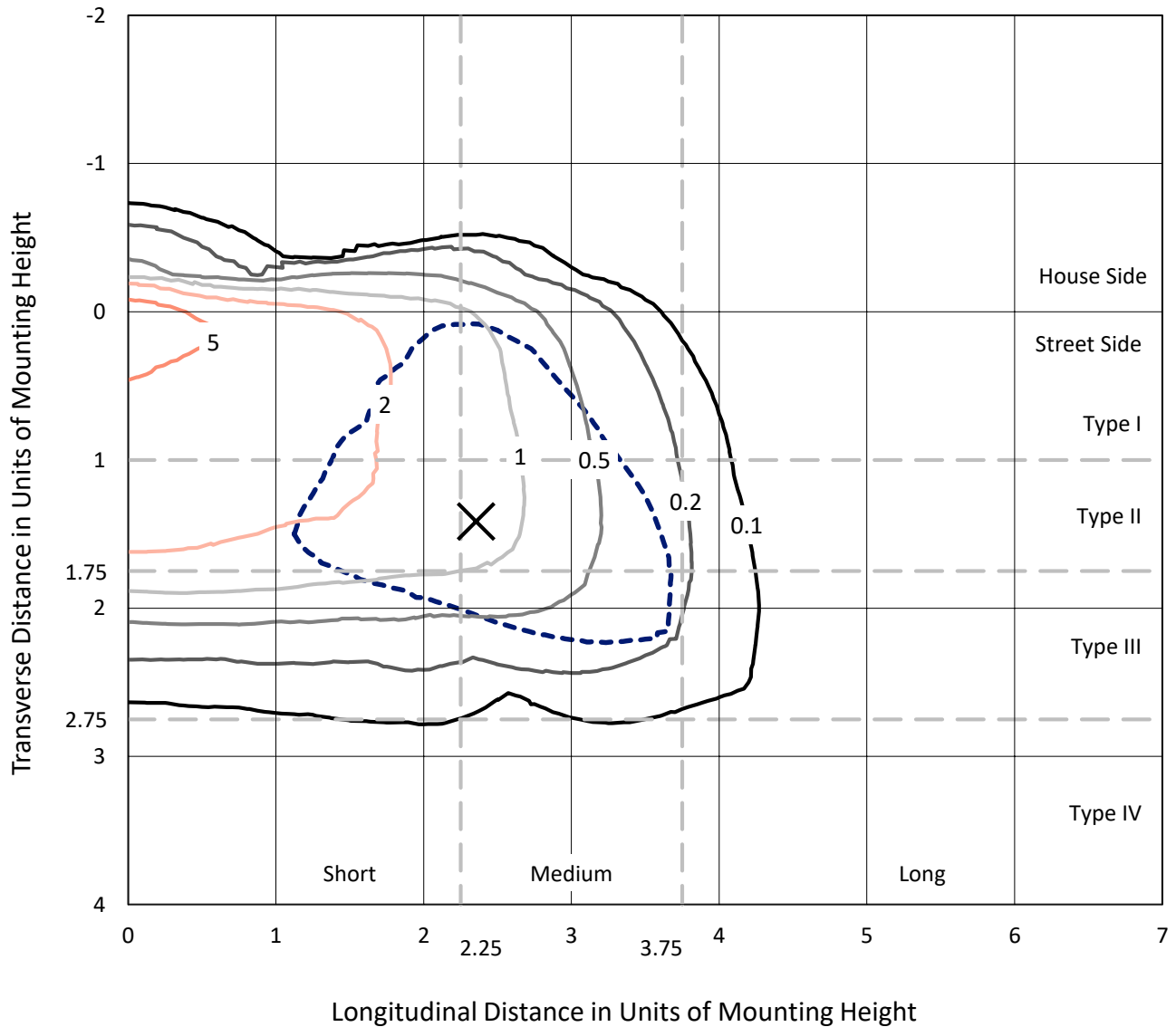


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

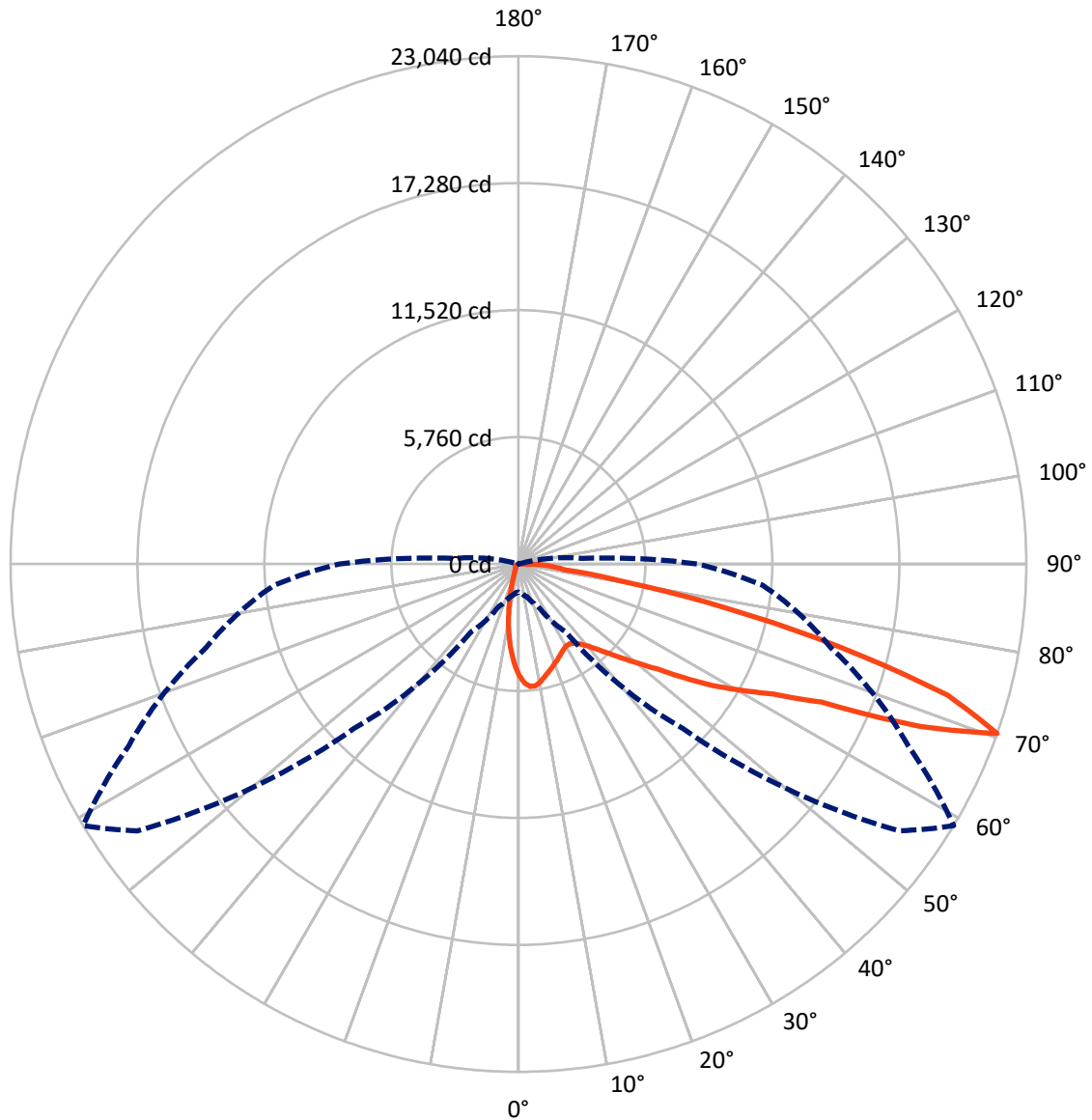


Based on 25 foot mounting height. Maximum calculated value = 8.6 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



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

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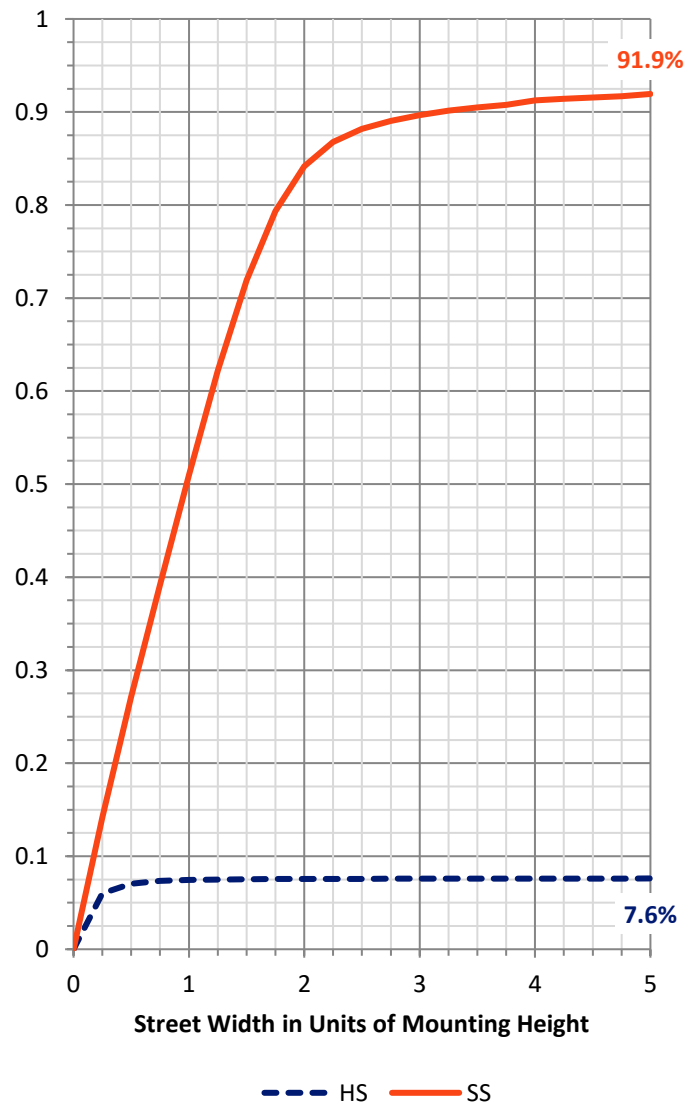
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1539.8	0.0	1539.8
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	18490.7	0.0	18490.7
	% Fixture	92.3	0.0	92.3
Total	Lumens	20030.5	0.0	20030.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	416.5	2.1
10°-20°	873.6	4.4
20°-30°	1182.5	5.9
30°-40°	1706.6	8.5
40°-50°	2834.2	14.1
50°-60°	4335.3	21.6
60°-70°	5392.1	26.9
70°-80°	2980.7	14.9
80°-90°	309.1	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°	20030.5	100.0
0°-180°	20030.5	100.0



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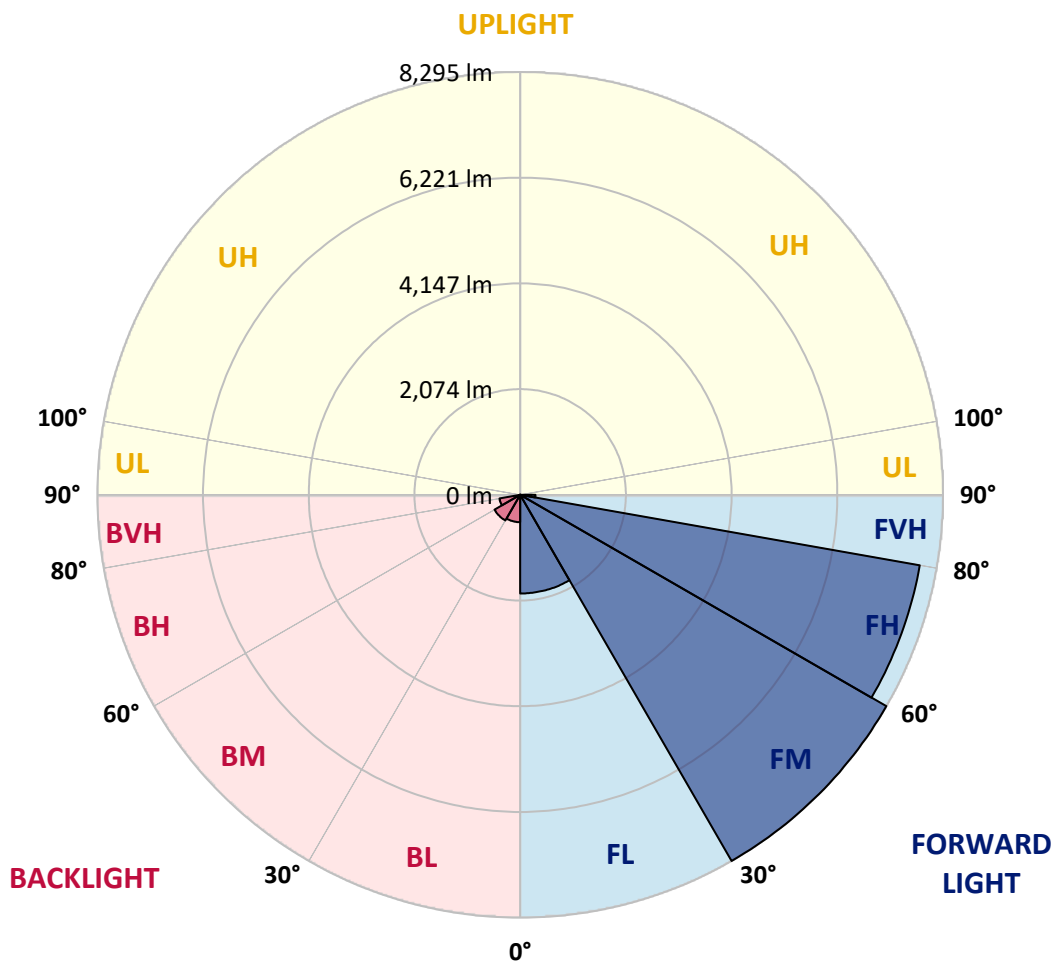
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1936.0	9.7			
FM	(30°-60°)	8294.8	41.4			
FH	(60°-80°)	7959.7	39.7			G4/12000
FVH	(80°-90°)	300.1	1.5			G3/500
BL	(0°-30°)	536.6	2.7	B2/1000		
BM	(30°-60°)	581.2	2.9	B1/1000		
BH	(60°-80°)	413.1	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°	5065.0	5065.0	5065.0	5065.0	5065.0	5065.0	5065.0	5065.0	5065.0	5065.0	5065.0
2.5°	5725.3	5716.2	5678.4	5670.9	5628.6	5544.1	5445.8	5406.4	5326.4	5199.4	5058.9
5°	5820.5	5825.0	5828.1	5811.4	5805.4	5735.9	5627.1	5580.3	5473.1	5264.4	5007.6
7.5°	5463.9	5476.0	5513.8	5530.3	5603.0	5630.1	5607.4	5577.2	5492.6	5246.3	4885.2
10°	5087.6	5110.3	5151.1	5178.4	5267.5	5340.0	5432.2	5439.7	5421.6	5185.9	4747.7
12.5°	4764.2	4785.4	4830.8	4885.2	4975.8	5069.5	5207.1	5255.4	5315.8	5146.5	4649.4
15°	4486.3	4492.3	4536.1	4604.0	4723.5	4851.9	5015.1	5086.1	5204.0	5131.5	4573.9
17.5°	4243.0	4244.5	4273.2	4335.2	4480.1	4649.4	4839.8	4933.5	5083.2	5110.3	4507.4
20°	4082.8	4081.3	4082.8	4116.1	4244.5	4445.4	4676.7	4774.8	4966.8	5084.6	4439.4
22.5°	4028.4	4020.8	3986.1	3974.0	4055.6	4232.3	4508.9	4637.4	4862.5	5077.1	4389.6
25°	4094.9	4090.3	4016.4	3946.8	3954.4	4064.7	4338.1	4495.4	4780.9	5104.3	4377.5
27.5°	4309.5	4300.5	4187.1	4051.2	3964.9	3984.5	4211.3	4376.0	4715.9	5170.8	4394.1
30°	4590.5	4592.0	4471.1	4306.5	4104.0	3992.2	4143.2	4299.0	4672.2	5270.4	4430.4
32.5°	4903.3	4901.8	4815.7	4625.3	4366.9	4131.2	4173.4	4305.0	4678.2	5417.1	4499.9
35°	5226.6	5210.0	5181.3	5013.6	4711.4	4374.4	4311.0	4407.7	4741.7	5610.5	4617.8
37.5°	5599.9	5593.8	5622.6	5445.8	5137.5	4732.6	4552.8	4617.8	4901.8	5896.0	4808.1
40°	6193.7	6160.5	6174.1	5933.9	5618.0	5214.6	4891.2	4907.8	5157.1	6273.7	5108.9
42.5°	7325.5	7191.0	6938.7	6488.4	6146.9	5749.4	5333.9	5305.3	5518.3	6731.7	5504.7
45°	8677.9	8523.8	7887.7	7100.3	6675.7	6323.7	5881.0	5803.9	5962.5	7277.1	6015.5
47.5°	9806.7	9640.4	8797.2	7739.5	7213.8	6916.0	6486.8	6396.2	6494.5	7910.3	6628.9
50°	10191.9	10099.8	9359.3	8271.4	7756.1	7580.9	7246.9	7095.9	7120.0	8593.2	7345.2
52.5°	10015.1	9983.4	9487.7	8635.6	8257.9	8315.2	8079.5	7920.9	7893.7	9339.7	8137.0
55°	9641.9	9626.9	9385.1	8838.1	8700.6	8987.6	9247.6	9110.0	8853.2	10133.0	8791.2
57.5°	9108.5	9166.0	9339.7	9227.9	9244.5	9697.9	10332.4	10403.4	10019.7	10764.7	9276.2
60°	7683.6	7837.7	8634.1	9646.5	10421.5	10879.5	11494.4	11627.4	11007.9	11196.8	9836.8
62.5°	5680.0	5900.5	7035.4	8895.5	11069.8	13126.4	13040.2	12981.3	11950.8	11775.5	10856.8
65°	3336.3	3594.7	4554.3	6950.7	10092.2	14571.0	15926.2	15110.3	13387.7	12978.3	12481.1
67.5°	1662.2	1663.7	2097.3	3668.8	7458.5	13563.0	20139.1	19667.6	16443.1	14750.8	13121.8
70°	1278.4	1313.1	1551.8	2132.0	3771.5	10563.6	21104.6	23040.3	19513.4	14672.2	11133.3
72.5°	1083.5	1106.0	1381.0	1855.5	2819.6	5799.4	18269.9	20365.7	18620.5	12396.5	8206.5
75°	779.7	797.8	1222.4	1683.2	2596.0	2877.1	12532.6	15104.3	13971.1	8720.2	4516.4
77.5°	193.4	191.9	426.1	1366.0	2322.5	2396.5	7191.0	9685.8	8016.1	3570.6	1160.5
80°	86.1	83.1	96.7	287.2	2160.8	2262.0	3162.6	4891.2	3075.0	578.7	355.1
82.5°	60.4	57.5	60.4	105.8	722.3	2098.9	1911.5	2119.9	1125.7	198.0	151.1
85°	19.6	18.1	33.3	89.1	202.4	1210.4	1864.6	1583.6	837.2	84.5	101.3
87.5°	3.1	3.1	12.1	48.4	58.9	403.5	1094.0	1097.0	376.3	49.8	45.4
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°	5065.0	5065.0	5065.0	5065.0	5065.0	5065.0	5065.0	5065.0	5065.0	5065.0	5065.0
2.5°	4987.9	4898.7	4773.3	4648.0	4534.6	4418.2	4324.6	4280.8	4261.1	4233.9	4175.1
5°	4873.1	4711.4	4436.4	4165.9	3913.5	3671.7	3464.8	3346.9	3220.0	3214.0	3152.0
7.5°	4688.8	4459.1	4025.4	3605.3	3220.0	2851.3	2534.0	2328.6	2188.0	2100.3	2039.9
10°	4483.2	4188.6	3614.4	3023.5	2499.3	2006.6	1598.7	1332.8	1171.0	1089.5	1042.7
12.5°	4320.0	3949.8	3209.5	2466.0	1808.7	1243.6	864.4	670.9	584.7	551.5	536.5
15°	4179.5	3730.7	2830.2	1967.3	1207.4	714.8	500.2	436.7	423.1	423.1	421.6
17.5°	4037.4	3519.2	2461.5	1477.8	760.0	468.4	394.4	385.3	386.8	391.3	391.3
20°	3903.0	3318.2	2106.4	1053.1	498.7	374.8	358.2	355.1	359.6	365.7	364.2
22.5°	3794.2	3141.4	1774.0	723.8	383.8	340.1	329.4	324.8	327.9	332.4	330.9
25°	3717.1	2990.3	1468.8	504.7	333.9	309.8	297.6	291.6	288.6	291.6	290.1
27.5°	3670.3	2863.4	1181.6	379.2	299.2	279.6	264.4	252.4	244.7	244.7	241.8
30°	3640.1	2744.0	926.3	314.3	270.5	249.3	228.2	211.5	199.5	196.4	194.9
32.5°	3638.6	2641.4	692.0	278.1	243.3	219.1	193.4	172.3	158.7	155.5	154.2
35°	3676.3	2558.2	509.2	250.9	219.1	190.4	161.7	139.0	127.0	127.0	125.4
37.5°	3774.6	2509.8	385.3	229.7	199.5	166.2	136.0	114.8	104.3	107.3	107.3
40°	3957.4	2500.7	314.3	213.0	182.8	145.1	110.4	93.6	89.1	93.6	93.6
42.5°	4237.0	2549.1	279.6	200.9	167.7	123.9	92.3	80.1	78.5	83.1	83.1
45°	4601.1	2644.3	259.9	190.4	151.1	102.7	77.0	69.5	68.0	74.1	74.1
47.5°	5042.4	2772.8	241.8	178.3	134.5	84.5	65.0	58.9	58.9	65.0	66.5
50°	5565.1	2946.5	223.7	166.2	120.8	71.0	54.4	49.8	51.4	57.5	58.9
52.5°	6166.5	3159.6	207.0	155.5	105.8	57.5	45.4	42.3	43.8	49.8	51.4
55°	6684.8	3345.4	187.4	145.1	86.1	46.9	37.8	36.3	37.8	45.4	45.4
57.5°	7136.6	3523.7	169.3	128.5	68.0	37.8	30.3	30.3	33.3	40.8	42.3
60°	7736.5	3804.7	154.2	108.8	51.4	28.7	24.1	25.6	30.3	36.3	37.8
62.5°	8798.7	4282.3	134.5	90.6	37.8	22.6	19.6	21.2	27.2	34.8	36.3
65°	10128.5	4734.1	111.8	75.5	28.7	16.6	15.1	19.6	27.2	34.8	36.3
67.5°	9992.6	4117.6	87.6	60.4	21.2	13.5	12.1	18.1	25.6	34.8	36.3
70°	8103.6	2886.1	65.0	40.8	16.6	12.1	12.1	18.1	25.6	33.3	34.8
72.5°	5621.1	1606.2	49.8	27.2	15.1	12.1	10.6	16.6	24.1	33.3	34.8
75°	2674.5	492.6	39.4	19.6	13.5	10.6	9.1	16.6	24.1	33.3	34.8
77.5°	513.7	125.4	31.6	16.6	12.1	10.6	9.1	15.1	24.1	31.6	33.3
80°	173.7	55.9	25.6	15.1	12.1	10.6	9.1	15.1	22.6	30.3	31.6
82.5°	95.2	31.6	22.6	13.5	12.1	9.1	7.5	13.5	21.2	30.3	31.6
85°	74.1	22.6	18.1	13.5	12.1	9.1	7.5	13.5	21.2	28.7	30.3
87.5°	37.8	16.6	15.1	13.5	12.1	9.1	7.5	12.1	19.6	27.2	30.3
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)