

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: P196972

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196972
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
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-AFL-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13440 lumens
Efficiency: N/A
Efficacy: 104.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

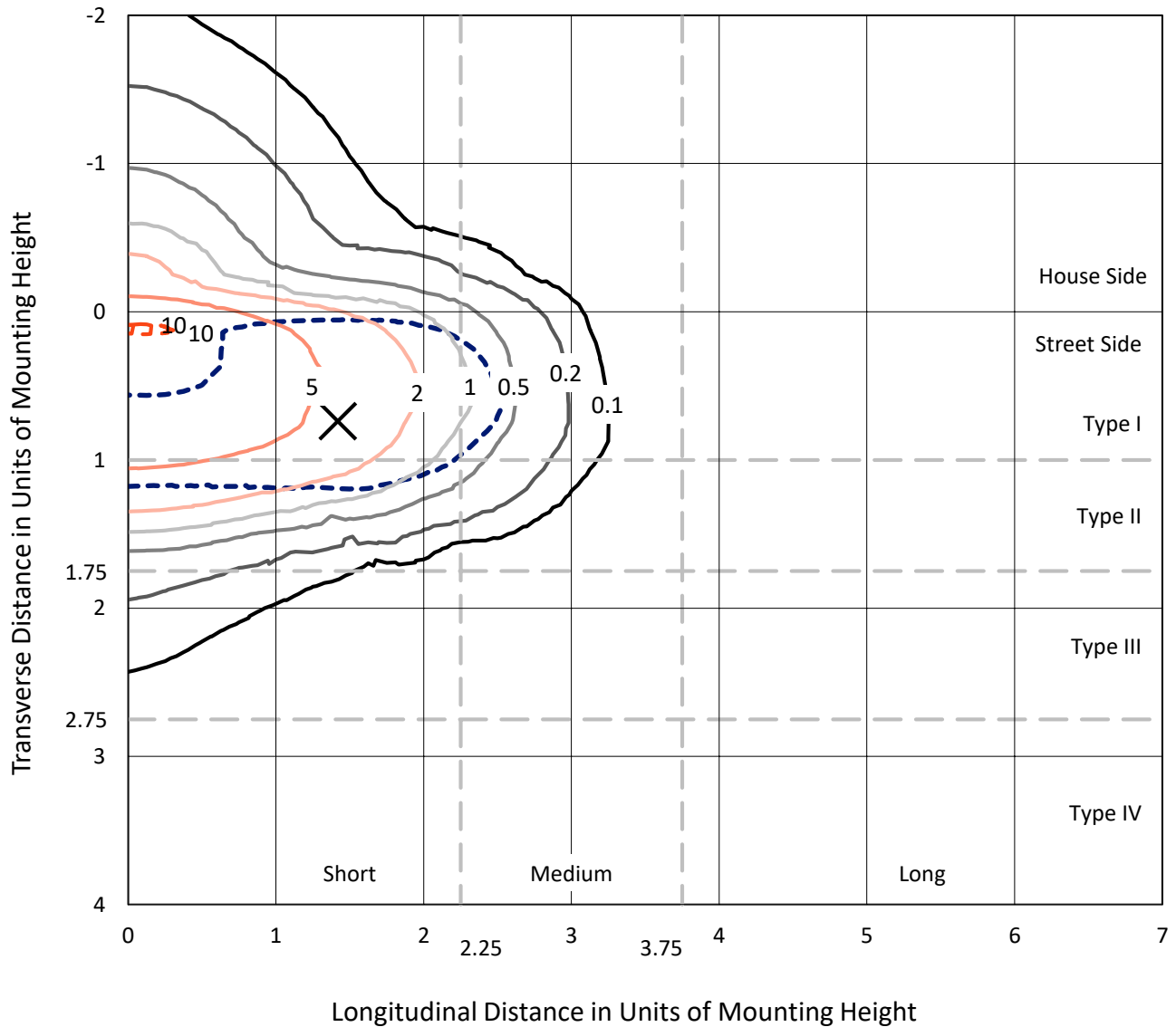
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

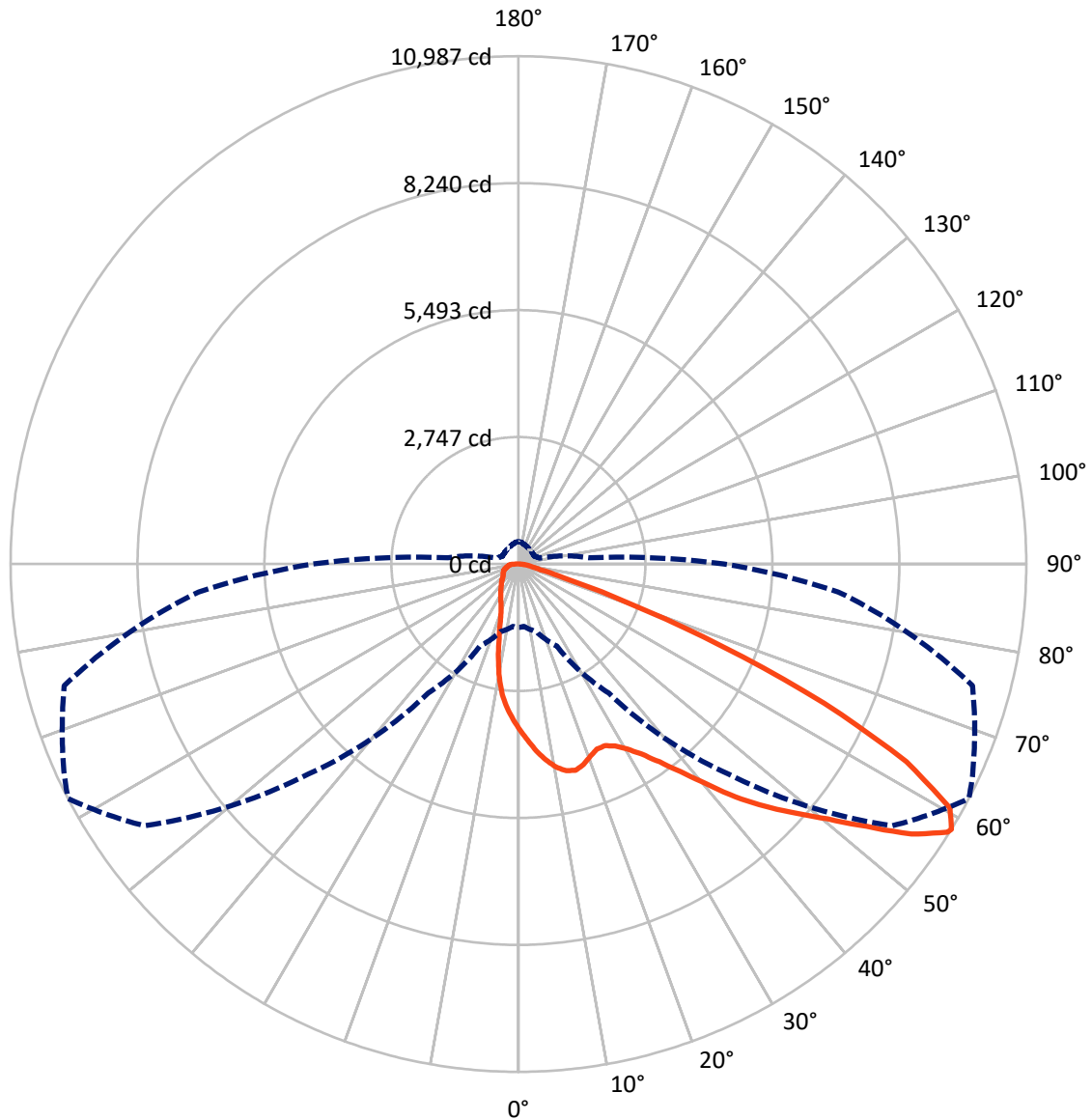
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 10.5 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

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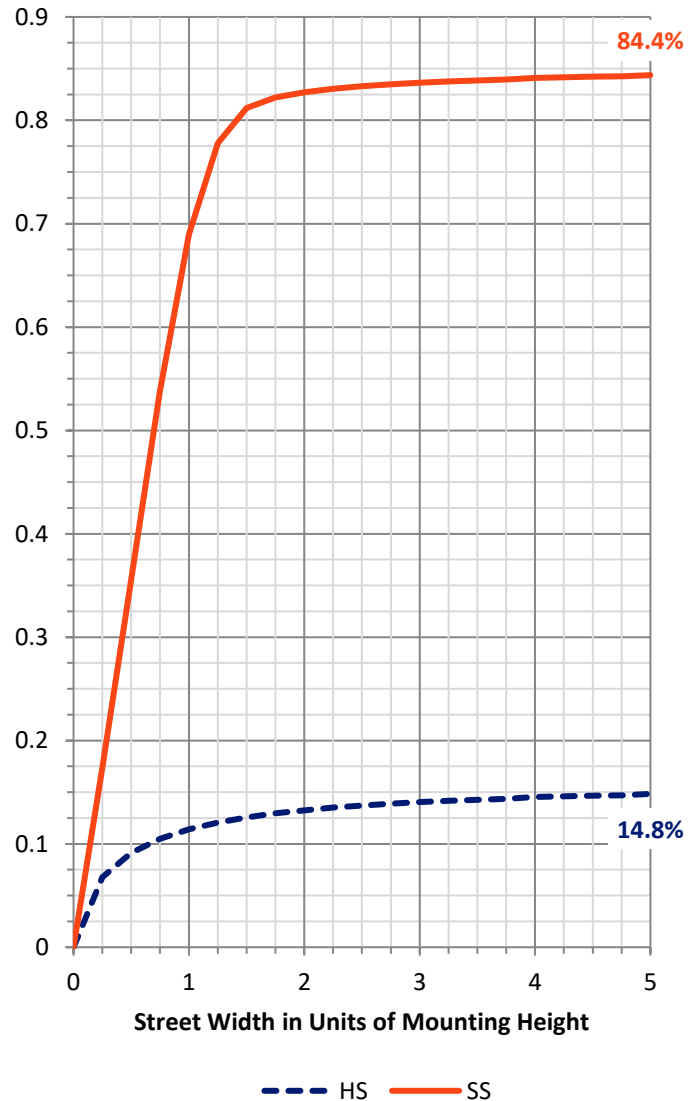
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2063.6	0.0	2063.6
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	11376.5	0.0	11376.5
	% Fixture	84.6	0.0	84.6
Total	Lumens	13440.0	0.0	13440.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	320.7	2.4
10°-20°	809.5	6.0
20°-30°	1311.9	9.8
30°-40°	2094.5	15.6
40°-50°	3046.5	22.7
50°-60°	3187.9	23.7
60°-70°	1943.4	14.5
70°-80°	543.5	4.0
80°-90°	182.2	1.4
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°	13440.0	100.0
0°-180°	13440.0	100.0

Coefficient of Utilization



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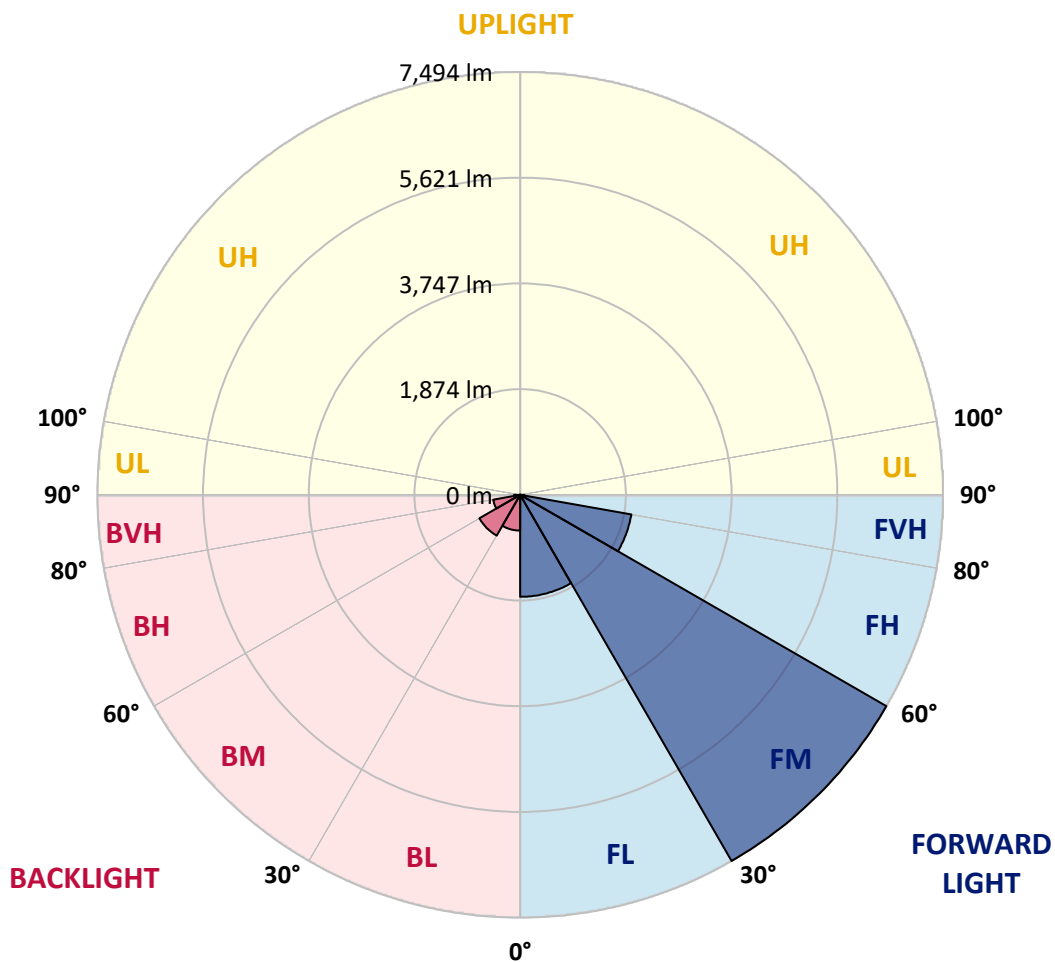
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1807.7	13.5			
FM	(30°-60°)	7494.3	55.8			
FH	(60°-80°)	2001.1	14.9			G2/5000
FVH	(80°-90°)	73.3	0.5			G1/100
BL	(0°-30°)	634.3	4.7	B2/1000		
BM	(30°-60°)	834.5	6.2	B1/1000		
BH	(60°-80°)	485.8	3.6	B1/500		G1/500
BVH	(80°-90°)	108.9	0.8			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	3588.4	3588.4	3588.4	3588.4	3588.4	3588.4	3588.4	3588.4	3588.4	3588.4	3588.4
2.5°	4073.1	4070.5	4036.1	4013.4	3986.5	3924.4	3862.2	3816.0	3792.5	3702.6	3615.3
5°	4409.9	4399.8	4380.5	4356.1	4320.9	4242.7	4144.5	4059.6	4026.0	3866.4	3706.0
7.5°	4231.8	4247.8	4307.4	4374.6	4445.2	4450.2	4380.5	4279.7	4242.7	4029.4	3794.2
10°	3738.7	3732.0	3806.8	3937.8	4170.5	4400.7	4515.7	4466.2	4427.5	4183.9	3882.4
12.5°	3589.2	3587.6	3600.2	3633.8	3779.9	4095.7	4481.3	4588.8	4575.4	4347.7	3976.5
15°	3634.6	3636.3	3635.4	3639.6	3679.9	3830.3	4288.9	4630.0	4672.0	4509.8	4072.2
17.5°	3779.9	3774.0	3755.5	3735.4	3741.3	3795.0	4081.5	4559.4	4685.4	4654.3	4152.9
20°	4004.2	4004.2	3954.6	3898.3	3861.4	3873.1	3994.9	4438.5	4623.2	4777.0	4213.3
22.5°	4285.6	4289.8	4216.7	4114.2	4030.2	3998.3	4044.5	4348.6	4547.6	4890.4	4267.1
25°	4635.0	4634.2	4527.5	4380.5	4247.8	4171.3	4170.5	4352.8	4524.1	5023.1	4323.4
27.5°	5067.6	5028.1	4903.8	4694.6	4507.3	4390.6	4337.7	4458.6	4573.7	5186.0	4399.0
30°	5555.6	5515.3	5352.3	5083.6	4829.9	4659.4	4572.0	4641.7	4724.9	5393.5	4513.2
32.5°	6038.6	6047.9	5856.3	5553.1	5227.2	4987.0	4857.6	4900.4	4958.4	5647.2	4667.8
35°	6745.9	6745.0	6494.7	6115.9	5728.7	5396.0	5232.2	5254.9	5307.8	6005.0	4884.5
37.5°	7273.4	7265.0	7103.7	6768.6	6332.6	5933.6	5696.7	5700.1	5745.5	6454.4	5170.1
40°	7327.1	7325.5	7324.6	7276.7	6978.5	6602.2	6305.7	6244.4	6262.9	6931.5	5473.3
42.5°	6916.4	6977.7	7154.1	7424.6	7507.7	7310.3	7029.8	6892.9	6852.6	7479.2	5794.2
45°	6330.9	6362.0	6671.1	7279.3	7774.0	7975.6	7764.8	7475.8	7406.9	8011.7	6055.4
47.5°	6058.8	6045.3	6224.2	6887.0	7748.0	8504.8	8519.9	8046.2	7929.4	8471.2	6278.0
50°	5475.0	5457.3	5683.3	6309.9	7464.1	8767.7	9295.2	8667.7	8451.9	8908.0	6479.6
52.5°	4311.6	4294.8	4598.0	5405.3	6829.0	8669.4	9948.7	9430.4	9062.5	9328.8	6667.8
55°	2805.5	2807.2	3096.2	3928.6	5526.2	8096.6	10255.3	10311.6	9899.2	9749.6	6819.8
57.5°	1544.7	1530.4	1736.2	2247.8	3801.7	6795.4	10000.0	10946.6	10731.6	10110.8	6929.8
58°	1373.4	1356.6	1515.3	1956.3	3408.6	6428.4	9871.4	10986.9	10838.3	10170.5	6945.8
60°	978.6	950.0	925.7	1102.9	1963.9	4635.0	9014.7	10725.7	10869.3	10289.7	6930.7
62.5°	824.9	792.1	704.7	698.0	924.8	2267.1	7128.9	9419.5	9821.9	10015.1	6687.1
65°	766.1	733.3	618.2	577.1	627.5	978.6	4408.2	7273.4	7811.0	9060.0	6073.9
67.5°	724.1	685.4	561.9	508.2	518.3	585.5	1870.6	4756.8	5380.1	7065.1	4872.7
70°	686.3	643.4	517.4	455.3	446.9	445.2	730.8	2483.8	3084.4	4623.2	3264.2
72.5°	643.4	601.4	477.9	411.6	393.1	361.2	439.3	1026.5	1407.0	2266.3	1496.0
75°	581.3	546.8	434.3	375.5	343.6	293.2	324.2	492.2	606.5	867.7	694.7
77.5°	511.5	483.8	389.8	345.2	302.4	239.4	247.8	333.5	374.6	488.9	402.4
80°	362.0	372.1	340.2	304.1	266.3	193.2	190.7	244.4	268.8	328.4	270.5
82.5°	249.5	257.0	277.2	240.2	215.0	150.4	140.3	169.7	182.3	198.2	131.0
85°	178.1	173.0	192.4	172.2	157.9	95.8	89.9	107.5	115.1	121.0	63.0
87.5°	108.4	107.5	110.9	89.0	82.3	48.7	44.5	51.2	54.6	52.9	30.2
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°	3588.4	3588.4	3588.4	3588.4	3588.4	3588.4	3588.4	3588.4	3588.4	3588.4	3588.4
2.5°	3582.5	3541.4	3451.5	3379.2	3301.1	3241.5	3181.8	3148.2	3111.3	3090.3	3087.8
5°	3622.0	3538.0	3346.5	3168.4	2985.3	2820.7	2659.4	2540.1	2442.7	2387.2	2383.9
7.5°	3665.7	3533.8	3238.1	2929.8	2603.9	2279.7	1993.3	1790.8	1660.6	1600.2	1596.0
10°	3699.3	3516.2	3106.2	2626.6	2110.0	1681.6	1421.2	1302.0	1262.5	1252.4	1250.7
12.5°	3739.6	3503.6	2939.9	2237.7	1612.8	1280.1	1201.2	1193.6	1202.0	1207.1	1207.9
15°	3777.4	3479.2	2715.7	1806.8	1262.5	1144.1	1145.7	1161.7	1178.5	1186.1	1186.9
17.5°	3795.0	3419.6	2420.8	1423.8	1104.6	1082.7	1102.1	1123.1	1138.2	1144.1	1144.1
20°	3795.0	3323.8	2078.9	1153.3	1022.3	1026.5	1050.0	1065.9	1069.3	1064.3	1061.7
22.5°	3779.1	3205.4	1746.3	1006.3	955.1	971.0	989.5	978.6	939.1	908.9	903.0
25°	3764.8	3065.1	1426.3	916.4	896.3	917.3	909.7	834.9	774.5	743.4	738.3
27.5°	3741.3	2895.4	1159.2	842.5	839.1	855.9	781.2	708.9	678.7	661.9	658.5
30°	3735.4	2711.5	970.2	777.0	782.9	759.3	673.7	650.1	643.4	634.2	630.0
32.5°	3754.7	2527.5	851.7	723.2	729.1	651.8	619.1	622.4	621.6	609.8	605.6
35°	3807.6	2348.6	776.1	674.5	657.7	583.8	588.0	598.1	598.1	583.8	578.7
37.5°	3900.0	2182.3	728.3	633.3	575.4	548.5	559.4	572.9	572.9	562.8	558.6
40°	3998.3	2020.2	692.1	600.6	523.3	524.1	535.1	545.1	549.3	551.0	547.7
42.5°	4087.3	1852.2	653.5	565.3	499.8	505.7	510.7	518.3	535.9	547.7	546.0
45°	4139.4	1683.3	611.5	521.6	483.8	486.3	484.7	498.1	519.1	536.7	536.7
47.5°	4187.3	1544.7	577.1	477.9	467.9	467.9	462.8	476.3	495.6	516.6	518.3
50°	4232.7	1454.8	552.7	444.3	447.7	445.2	443.5	456.1	482.1	507.3	511.5
52.5°	4278.9	1424.6	530.9	420.0	426.7	423.3	425.0	442.7	472.1	498.1	502.3
55°	4343.5	1443.9	508.2	403.2	406.6	405.7	412.4	432.6	458.6	484.7	486.3
57.5°	4423.3	1514.5	488.9	390.6	387.2	392.3	403.2	422.5	447.7	478.8	481.3
58°	4439.3	1531.3	485.5	387.2	383.0	390.6	401.5	420.0	446.0	478.8	481.3
60°	4463.7	1590.9	477.1	380.5	368.8	382.2	395.6	414.1	442.7	483.0	488.0
62.5°	4346.1	1602.7	474.6	373.0	353.6	370.4	386.4	407.4	439.3	497.3	508.2
65°	3938.7	1481.7	456.9	360.4	341.0	361.2	378.0	402.4	449.4	540.1	545.1
67.5°	3161.7	1230.6	414.1	341.0	326.8	350.3	371.3	402.4	453.6	546.8	550.2
70°	2173.9	924.8	360.4	320.0	310.0	336.8	368.8	411.6	439.3	517.4	507.3
72.5°	1135.7	643.4	315.8	295.7	289.8	325.1	393.1	402.4	422.5	483.0	472.9
75°	572.0	437.6	278.0	268.0	267.1	320.9	440.1	387.2	404.9	454.4	476.3
77.5°	337.7	342.7	247.8	241.9	246.1	313.3	441.0	372.1	384.7	418.3	441.8
80°	231.0	283.1	224.3	222.6	226.0	288.1	406.6	353.6	361.2	395.6	420.8
82.5°	130.2	156.2	196.6	207.5	205.8	236.0	351.1	321.7	331.0	467.9	494.7
85°	63.0	94.1	164.6	194.0	175.6	157.1	285.6	285.6	288.1	335.2	339.4
87.5°	23.5	42.0	110.9	153.7	122.6	94.1	194.0	202.4	225.1	231.8	236.9
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)