

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: P195028

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-7060-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195028
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)
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-7060-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13492 lumens
Efficiency: N/A
Efficacy: 104.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - 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

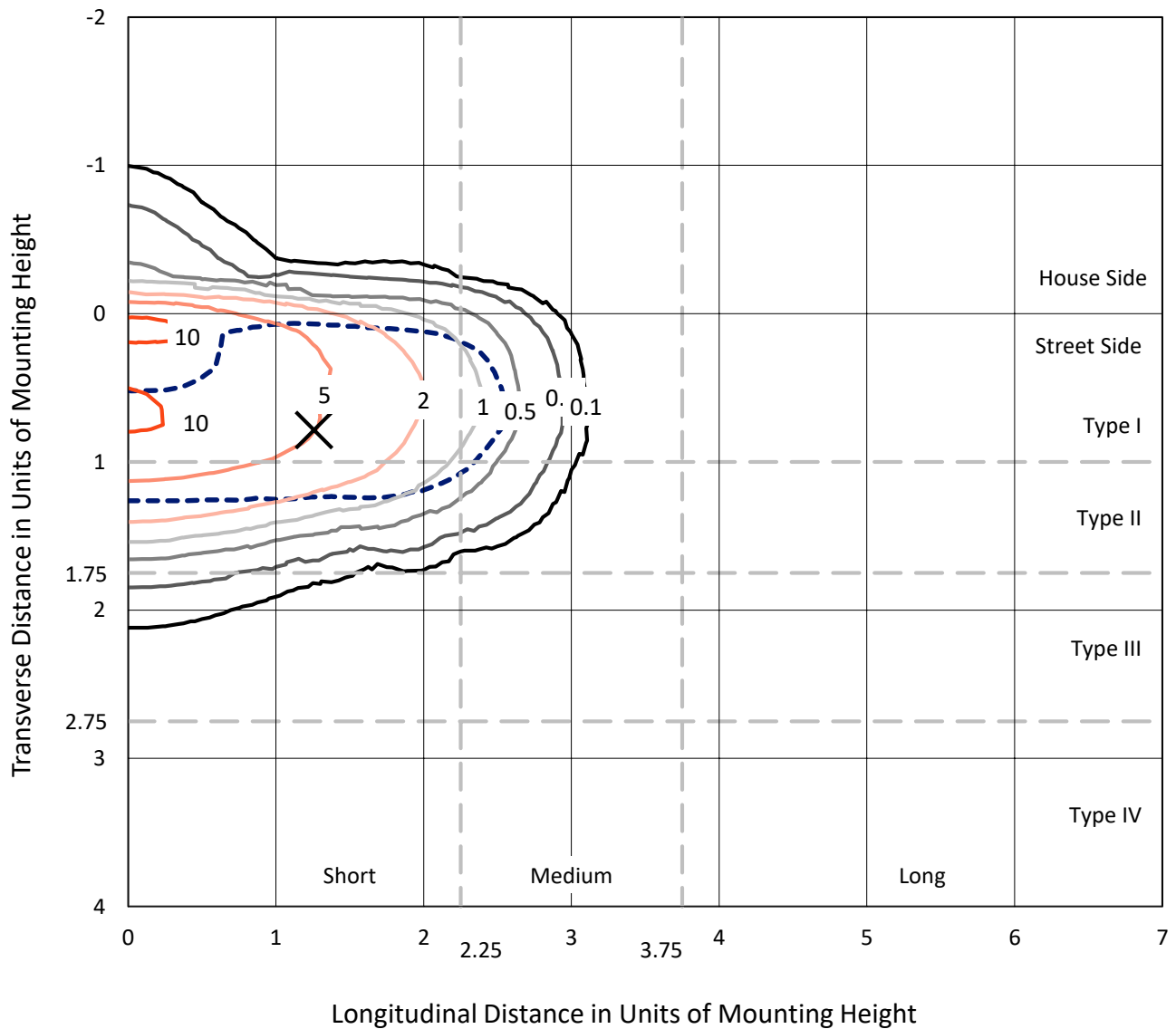


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

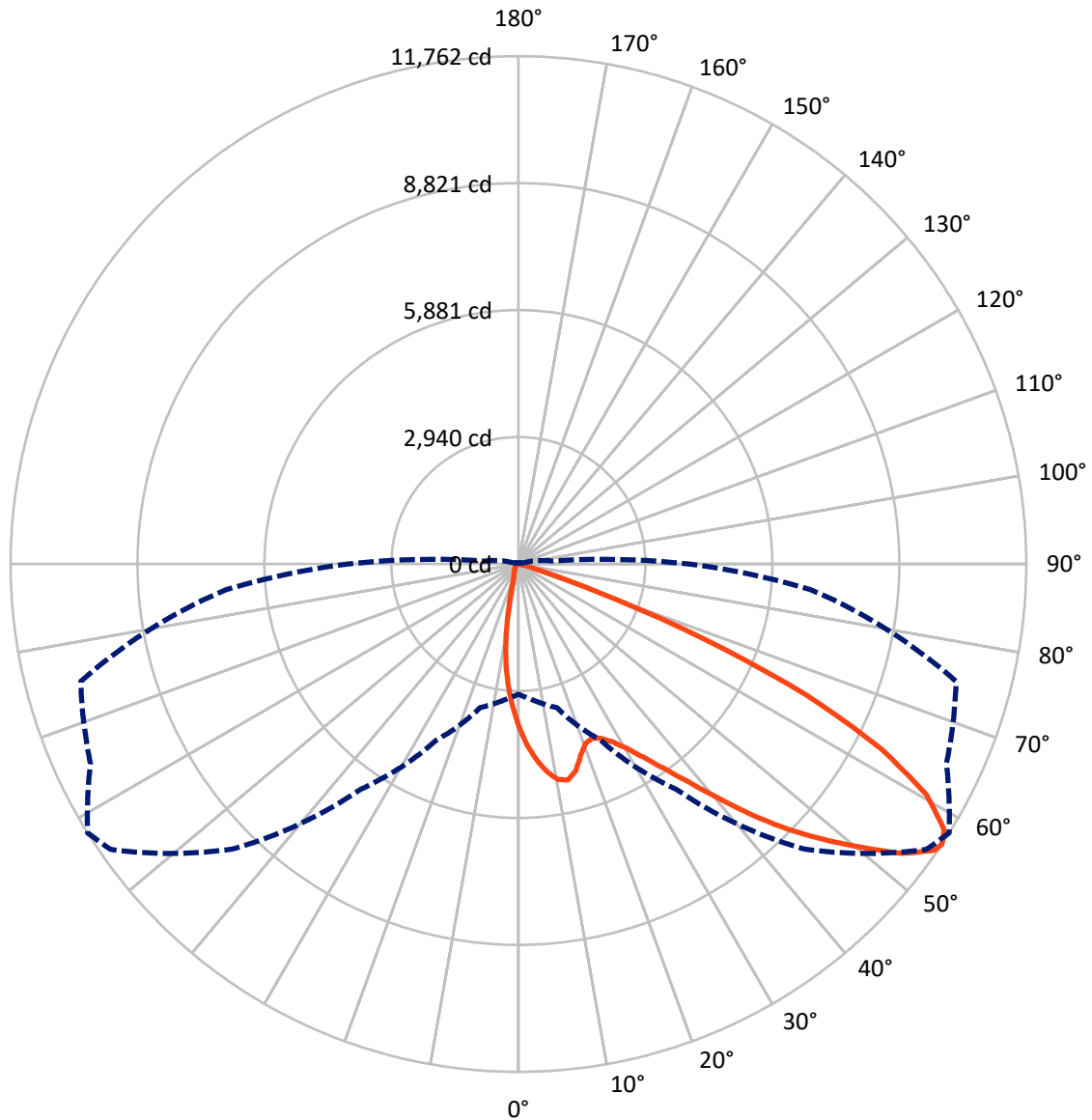


Based on 20 foot mounting height. Maximum calculated value = 11.9 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 56-Deg Vertical

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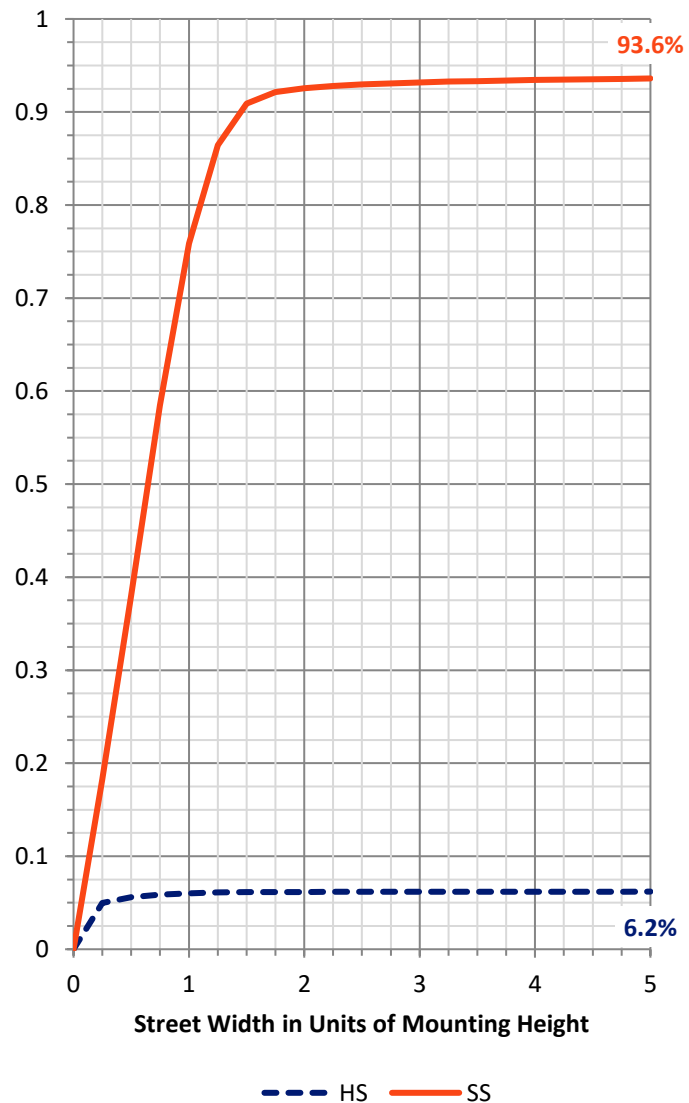
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	842.2	0.0	842.2
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	12649.8	0.0	12649.8
	% Fixture	93.8	0.0	93.8
Total	Lumens	13492.0	0.0	13492.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	325.9	2.4
10°-20°	758.2	5.6
20°-30°	1275.9	9.5
30°-40°	2184.8	16.2
40°-50°	3296.9	24.4
50°-60°	3427.0	25.4
60°-70°	1923.9	14.3
70°-80°	263.7	2.0
80°-90°	35.7	0.3
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°	13492.0	100.0
0°-180°	13492.0	100.0



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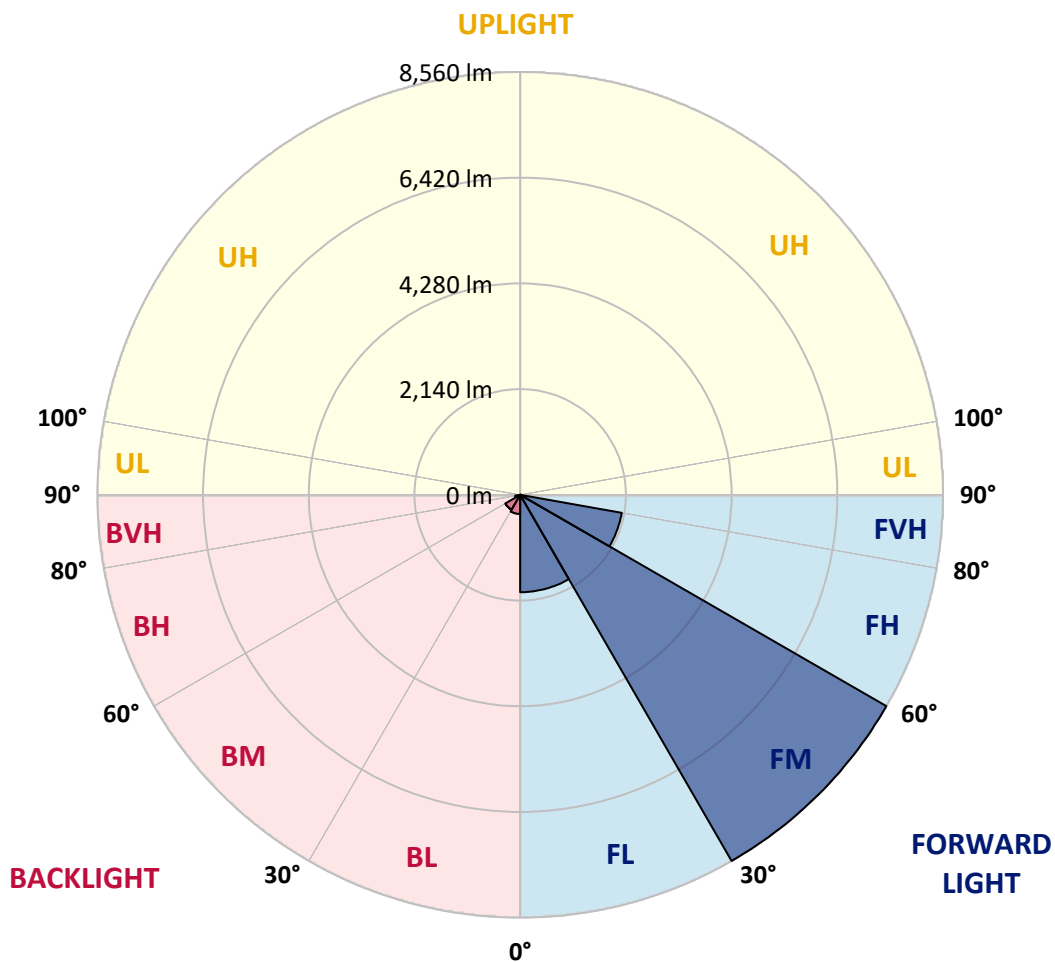
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1971.5	14.6			
FM	(30°-60°)	8559.9	63.4			
FH	(60°-80°)	2087.7	15.5			G2/5000
FVH	(80°-90°)	30.8	0.2			G1/100
BL	(0°-30°)	388.5	2.9	B1/500		
BM	(30°-60°)	348.8	2.6	B1/1000		
BH	(60°-80°)	99.9	0.7	B0/110		G0/110
BVH	(80°-90°)	4.9	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0
2.5°	4596.1	4568.3	4539.5	4486.0	4436.6	4360.4	4255.4	4229.7	4147.3	4011.5	3884.8
5°	4992.4	4987.3	4967.7	4924.5	4871.0	4778.3	4660.0	4580.7	4453.1	4238.9	3995.0
7.5°	4757.7	4801.0	4872.0	4972.9	5040.8	5031.6	4941.0	4872.0	4745.4	4453.1	4103.1
10°	4010.4	4018.7	4116.5	4328.5	4664.1	4977.0	5095.4	5076.9	4960.5	4640.4	4197.8
12.5°	3746.9	3752.1	3774.7	3842.6	4060.9	4497.3	5033.6	5130.4	5121.1	4819.5	4298.7
15°	3767.5	3770.6	3776.8	3798.4	3860.1	4079.4	4720.7	4966.7	5224.1	4989.4	4397.5
17.5°	3930.1	3928.1	3908.5	3887.9	3907.5	3979.5	4401.6	4661.0	5202.4	5132.4	4478.8
20°	4247.2	4257.5	4191.6	4100.0	4052.6	4055.7	4244.1	4438.6	5081.0	5243.6	4539.5
22.5°	4692.9	4700.1	4592.0	4433.5	4294.5	4224.5	4277.0	4380.0	4941.0	5346.5	4588.9
25°	5225.1	5225.1	5073.8	4848.3	4633.2	4479.8	4434.5	4473.6	4887.5	5462.9	4638.3
27.5°	5799.5	5820.1	5622.4	5327.0	5042.9	4818.5	4676.4	4669.2	4928.6	5609.0	4693.9
30°	6424.3	6442.8	6208.1	5846.8	5510.2	5223.0	5004.8	4957.4	5086.1	5805.6	4775.2
32.5°	7046.0	7061.5	6802.1	6433.6	6041.4	5703.7	5416.5	5341.4	5369.2	6092.8	4894.7
35°	7836.6	7839.7	7511.3	7072.8	6653.8	6257.5	5894.2	5820.1	5789.2	6455.2	5066.6
37.5°	8465.5	8440.8	8232.9	7818.1	7337.4	6923.5	6496.4	6399.6	6325.5	6964.7	5333.2
40°	8613.8	8613.8	8582.9	8458.3	8076.4	7678.1	7264.3	7120.2	6956.5	7564.8	5691.4
42.5°	8227.8	8252.5	8456.3	8727.0	8730.1	8474.8	8070.3	7948.8	7660.6	8248.3	6082.5
45°	7364.1	7371.3	7860.3	8591.1	9087.3	9233.5	8934.9	8767.1	8367.8	8958.6	6440.8
47.5°	7053.2	7075.9	7283.8	8177.3	9114.0	9848.0	9764.6	9534.0	9022.4	9607.1	6775.3
50°	6575.6	6603.4	6857.7	7567.9	8873.2	10242.2	10558.3	10311.2	9618.4	10147.5	6941.0
52.5°	5433.0	5476.3	5835.5	6761.9	8271.0	10258.7	11285.0	11136.8	10228.9	10436.8	6921.5
55°	3738.7	3770.6	4189.5	5278.6	7056.3	9755.3	11597.9	11699.8	10773.4	10501.6	6826.8
56°	3016.1	3135.5	3442.2	4497.3	6364.6	9327.1	11525.9	11761.6	10935.0	10491.3	6785.6
57.5°	1993.9	2016.5	2351.1	3259.0	5110.8	8397.6	11200.6	11629.8	11142.9	10438.8	6755.8
60°	937.8	948.1	1068.5	1503.9	2765.9	6119.6	10143.4	10855.7	11219.1	10328.7	6754.7
62.5°	611.4	613.5	627.9	717.5	1131.3	3333.1	8408.9	9434.2	10588.1	10316.3	6735.2
65°	503.4	508.5	491.0	502.3	591.9	1256.9	5931.2	7354.9	9106.8	10026.1	6514.9
67.5°	443.7	444.7	421.0	407.6	433.4	551.7	2988.3	4639.4	6811.3	8519.1	5366.1
70°	404.5	403.5	376.7	345.9	346.9	366.5	973.8	1927.0	3768.5	5058.3	3080.9
72.5°	359.3	361.3	345.9	302.6	288.2	259.4	366.5	519.8	1282.6	1624.3	812.2
75°	315.0	310.9	295.4	267.6	240.9	174.0	184.3	221.3	334.5	331.5	175.0
77.5°	238.8	234.7	241.9	228.5	188.4	121.5	100.9	115.3	151.3	141.0	71.0
80°	182.2	180.1	164.7	195.6	171.9	91.6	69.0	71.0	82.3	75.1	35.0
82.5°	131.8	130.7	124.6	120.4	109.1	66.9	52.5	55.6	61.8	52.5	25.7
85°	50.4	50.4	97.8	82.3	75.1	45.3	37.1	40.1	47.4	38.1	17.5
87.5°	8.2	8.2	65.9	54.6	34.0	22.6	23.7	25.7	27.8	22.6	13.4
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°	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0
2.5°	3809.7	3740.7	3589.4	3443.2	3315.6	3175.6	3104.6	3022.2	2991.4	2929.6	2935.8
5°	3848.8	3704.7	3401.0	3080.9	2787.5	2489.0	2277.0	2077.3	1966.1	1856.0	1856.0
7.5°	3889.0	3668.7	3199.3	2687.7	2193.6	1682.0	1319.7	1029.4	867.8	759.7	756.6
10°	3916.8	3622.4	2969.7	2231.7	1502.9	866.7	522.9	411.7	371.6	354.1	353.1
12.5°	3952.8	3576.0	2708.3	1694.3	834.8	411.7	326.3	308.8	301.6	297.5	297.5
15°	3983.7	3510.2	2391.2	1139.5	438.5	308.8	281.0	274.8	273.8	272.8	273.8
17.5°	3990.9	3416.5	2011.4	667.0	318.1	269.7	257.3	252.2	252.2	251.2	251.2
20°	3974.4	3293.0	1591.4	411.7	274.8	248.1	234.7	228.5	227.5	227.5	227.5
22.5°	3940.4	3135.5	1176.6	311.9	250.1	228.5	211.0	204.8	204.8	205.9	206.9
25°	3898.2	2949.1	808.1	268.7	231.6	207.9	190.4	184.3	186.3	188.4	189.4
27.5°	3844.7	2726.8	529.1	232.6	206.9	187.3	171.9	167.8	171.9	176.0	178.1
30°	3791.2	2482.8	358.2	201.8	179.1	164.7	155.4	154.4	160.6	169.8	170.9
32.5°	3756.2	2232.7	270.7	181.2	157.5	145.1	141.0	143.1	152.3	162.6	164.7
35°	3753.1	1988.7	230.6	164.7	143.1	131.8	129.7	135.9	146.2	154.4	156.5
37.5°	3801.5	1760.2	209.0	152.3	131.8	120.4	117.3	128.7	137.9	146.2	148.2
40°	3899.3	1555.4	194.6	141.0	122.5	109.1	107.1	116.3	125.6	134.8	137.9
42.5°	4021.7	1363.9	178.1	129.7	112.2	96.8	94.7	101.9	111.2	124.6	126.6
45°	4127.8	1185.8	160.6	117.3	100.9	83.4	82.3	90.6	97.8	110.1	112.2
47.5°	4217.3	1037.6	144.1	104.0	86.5	74.1	73.1	77.2	81.3	92.6	94.7
50°	4170.0	912.0	127.6	85.4	70.0	63.8	62.8	62.8	67.9	79.3	81.3
52.5°	4053.7	833.8	112.2	71.0	57.6	54.6	51.5	52.5	57.6	62.8	63.8
55°	3960.0	796.7	98.8	62.8	48.4	45.3	42.2	41.2	42.2	40.1	38.1
56°	3937.3	792.6	95.7	60.7	46.3	42.2	38.1	36.0	35.0	30.9	29.9
57.5°	3927.0	792.6	90.6	56.6	43.2	38.1	32.9	28.8	24.7	21.6	21.6
60°	3918.8	797.8	84.4	49.4	37.1	30.9	23.7	17.5	14.4	14.4	14.4
62.5°	3901.3	795.7	77.2	41.2	31.9	23.7	14.4	11.3	10.3	11.3	12.4
65°	3704.7	739.1	67.9	32.9	24.7	16.5	8.2	8.2	9.3	11.3	12.4
67.5°	2985.2	560.0	55.6	25.7	17.5	12.4	7.2	7.2	9.3	11.3	12.4
70°	1639.8	295.4	47.4	18.5	13.4	10.3	7.2	6.2	9.3	11.3	12.4
72.5°	400.4	123.5	43.2	14.4	12.4	9.3	6.2	6.2	9.3	11.3	12.4
75°	98.8	92.6	35.0	11.3	10.3	8.2	6.2	6.2	9.3	11.3	12.4
77.5°	46.3	122.5	23.7	10.3	9.3	7.2	6.2	6.2	9.3	11.3	11.3
80°	27.8	92.6	14.4	9.3	8.2	7.2	6.2	6.2	9.3	11.3	12.4
82.5°	16.5	26.8	10.3	9.3	8.2	6.2	6.2	6.2	9.3	11.3	12.4
85°	14.4	13.4	10.3	9.3	8.2	7.2	6.2	6.2	10.3	12.4	12.4
87.5°	11.3	10.3	9.3	8.2	8.2	7.2	6.2	6.2	9.3	11.3	12.4
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)