

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: P270495

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-7027-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270495
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-7027-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 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: 11721.9 lumens
Efficiency: N/A
Efficacy: 90.9 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

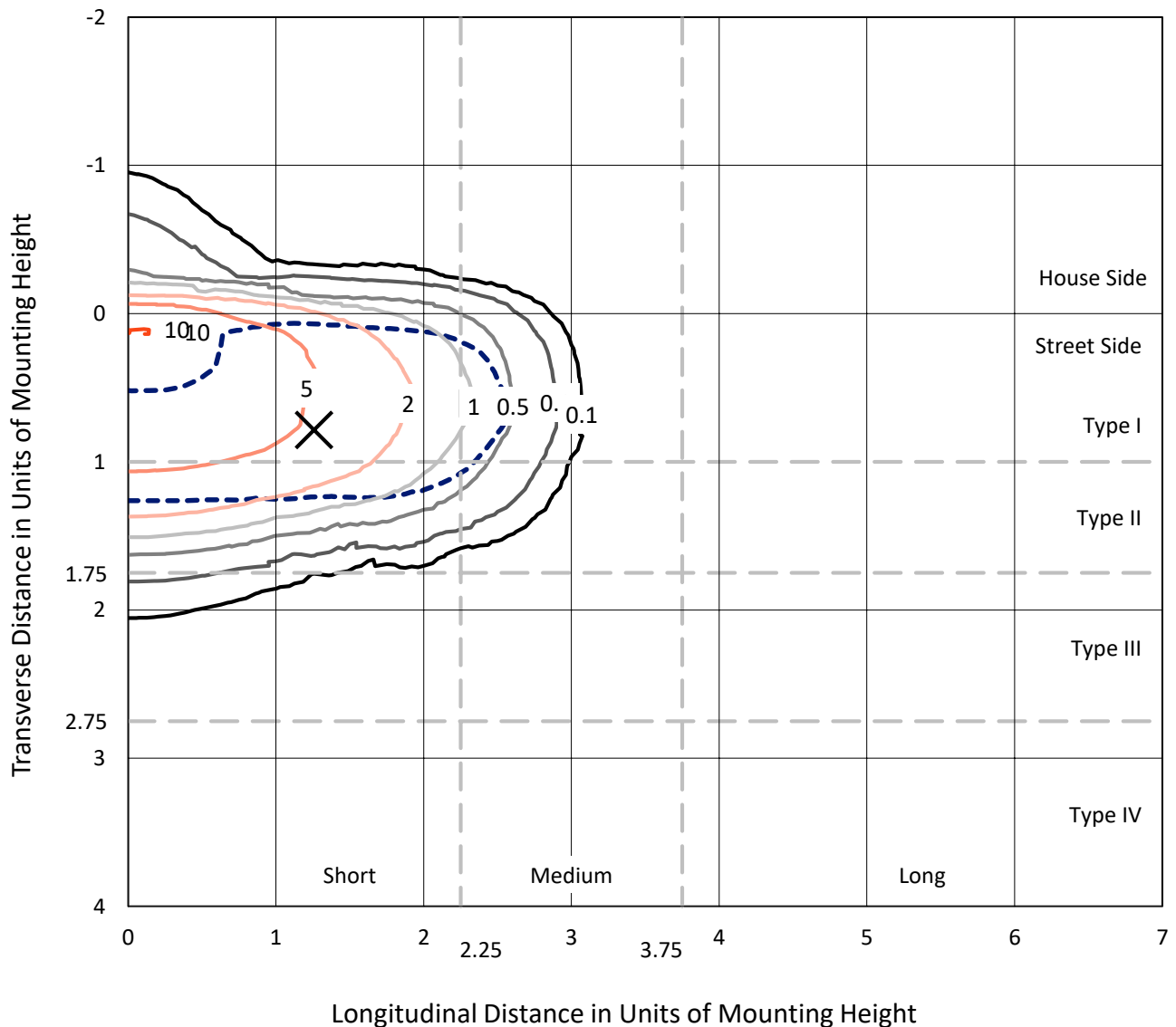


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

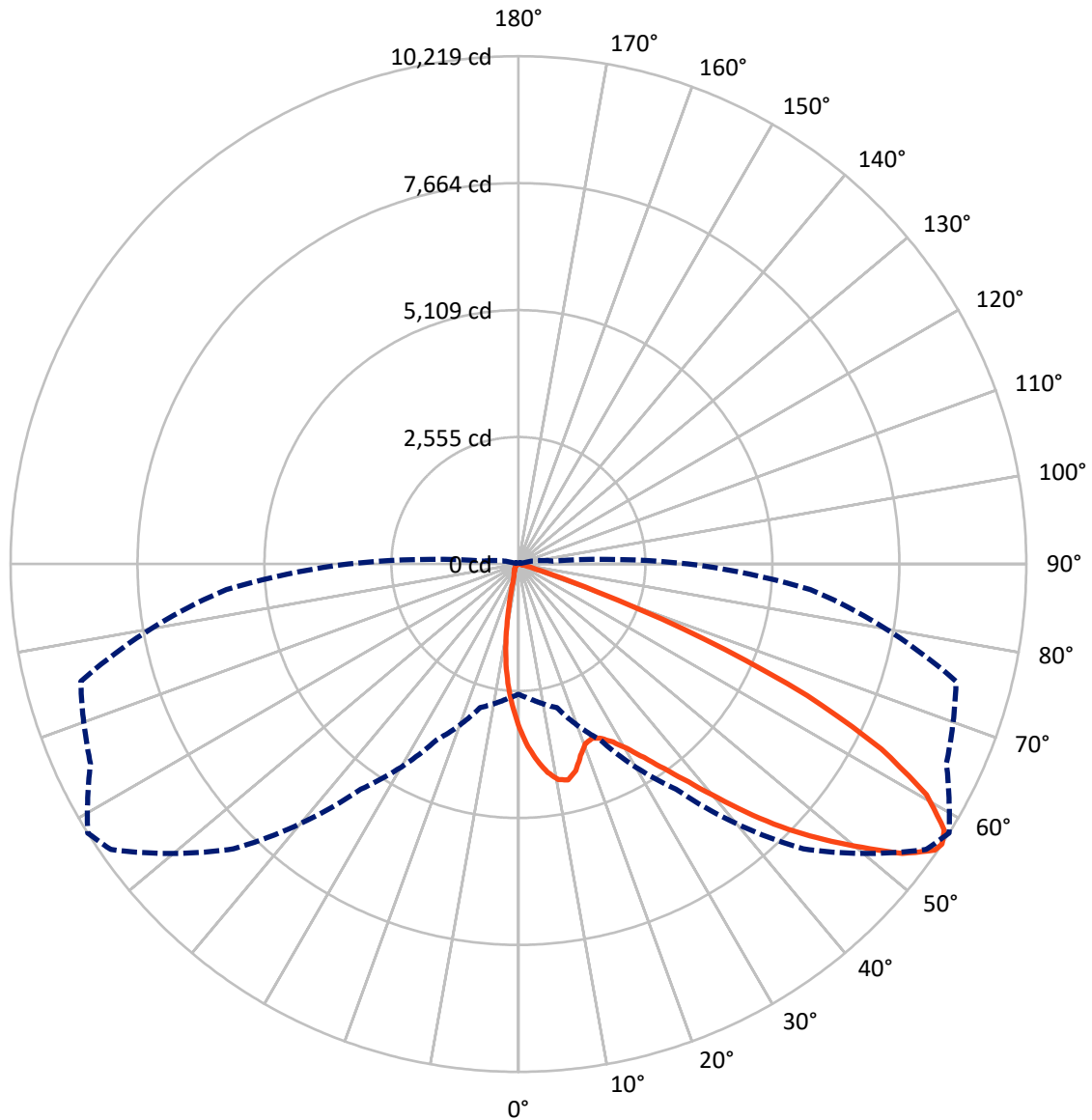


Based on 20 foot mounting height. Maximum calculated value = 10.3 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



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

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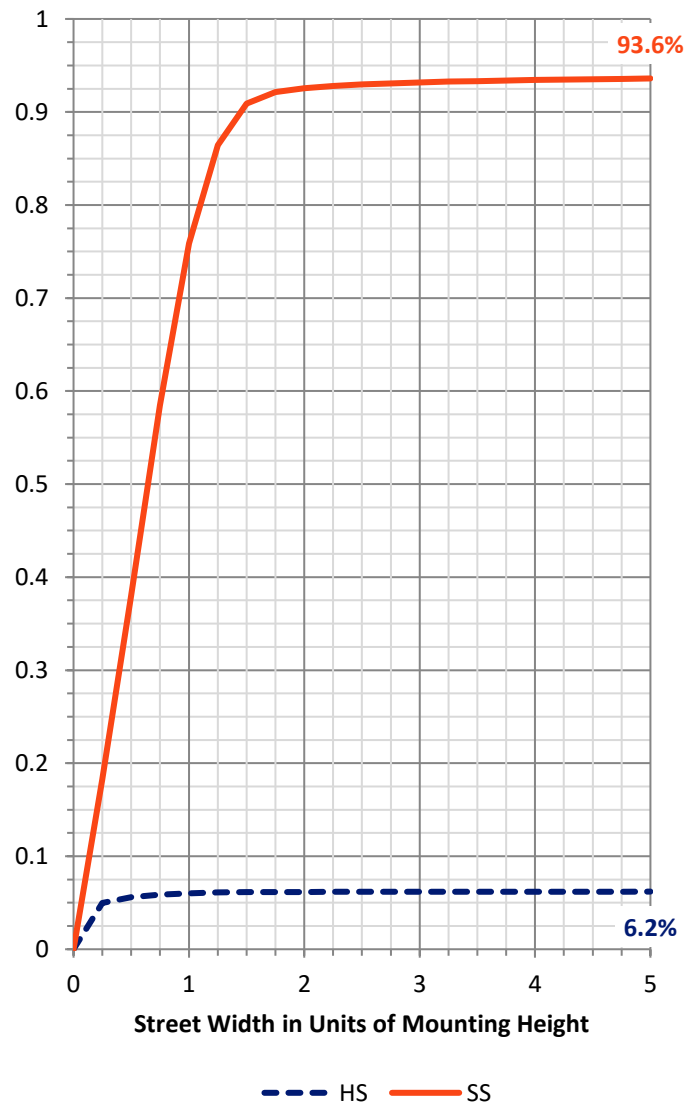
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	731.7	0.0	731.7
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	10990.2	0.0	10990.2
	% Fixture	93.8	0.0	93.8
Total	Lumens	11721.9	0.0	11721.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	283.1	2.4
10°-20°	658.8	5.6
20°-30°	1108.5	9.5
30°-40°	1898.2	16.2
40°-50°	2864.3	24.4
50°-60°	2977.4	25.4
60°-70°	1671.5	14.3
70°-80°	229.1	2.0
80°-90°	31.0	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°	11721.9	100.0
0°-180°	11721.9	100.0



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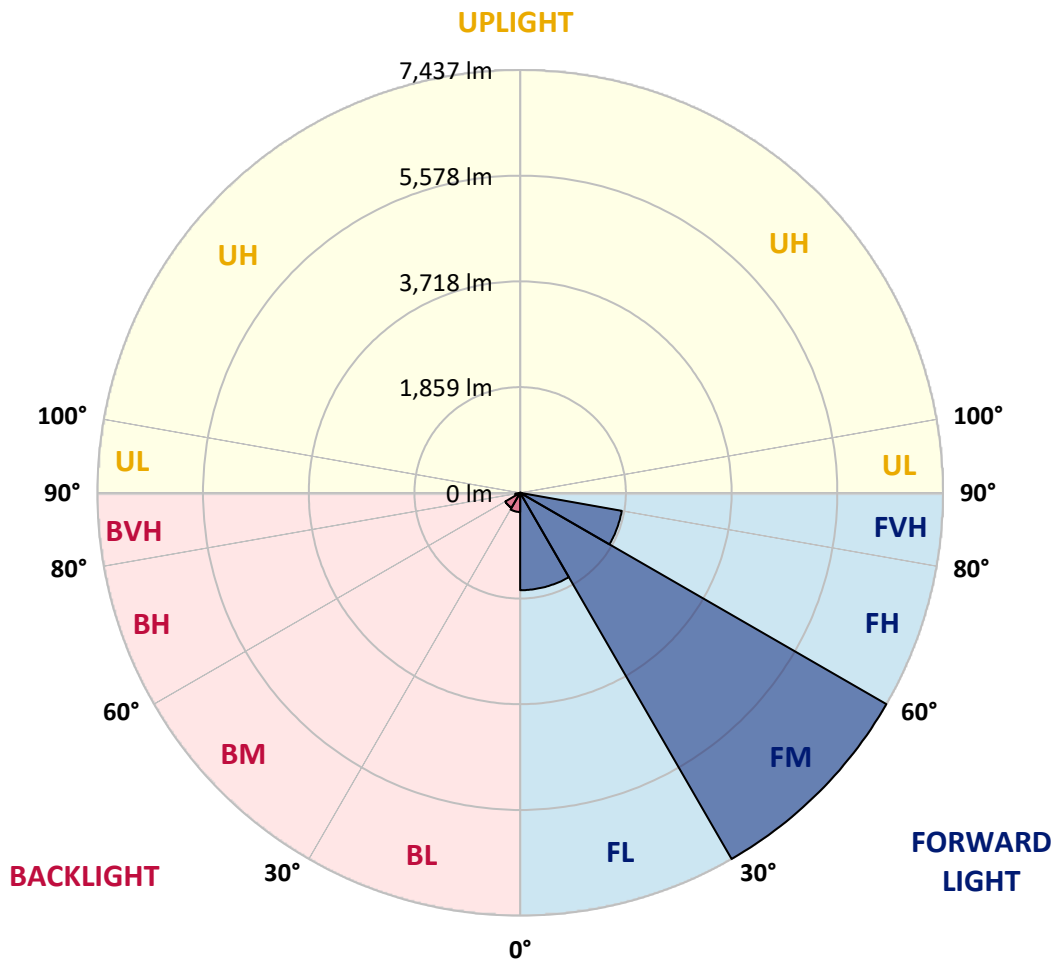
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1712.8	14.6			
FM	(30°-60°)	7436.8	63.4			
FH	(60°-80°)	1813.8	15.5			G2/5000
FVH	(80°-90°)	26.8	0.2			G1/100
BL	(0°-30°)	337.5	2.9	B1/500		
BM	(30°-60°)	303.1	2.6	B1/1000		
BH	(60°-80°)	86.8	0.7	B0/110		G0/110
BVH	(80°-90°)	4.3	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°	3318.8	3318.8	3318.8	3318.8	3318.8	3318.8	3318.8	3318.8	3318.8	3318.8	3318.8
2.5°	3993.1	3969.0	3943.9	3897.4	3854.4	3788.3	3697.2	3674.7	3603.2	3485.2	3375.1
5°	4337.5	4333.0	4315.9	4278.4	4231.8	4151.3	4048.7	3979.8	3868.8	3682.8	3470.8
7.5°	4133.6	4171.1	4232.9	4320.5	4379.4	4371.4	4292.7	4232.9	4122.9	3868.8	3564.7
10°	3484.3	3491.4	3576.3	3760.7	4052.2	4324.0	4426.8	4410.8	4309.7	4031.6	3646.9
12.5°	3255.3	3259.8	3279.4	3338.6	3528.1	3907.3	4373.2	4457.3	4449.2	4187.2	3734.7
15°	3273.2	3275.8	3281.2	3300.1	3353.7	3544.2	4101.3	4315.1	4538.6	4334.7	3820.5
17.5°	3414.5	3412.8	3395.8	3377.8	3394.9	3457.4	3824.1	4049.5	4519.9	4459.0	3891.2
20°	3690.0	3699.0	3641.6	3562.0	3520.9	3523.6	3687.3	3856.2	4414.4	4555.7	3943.9
22.5°	4077.1	4083.4	3989.6	3851.8	3731.1	3670.2	3715.8	3805.3	4292.7	4645.0	3986.9
25°	4539.6	4539.6	4408.2	4212.2	4025.3	3892.0	3852.7	3886.6	4246.2	4746.1	4029.7
27.5°	5038.6	5056.5	4884.8	4628.1	4381.3	4186.3	4062.9	4056.7	4282.0	4873.1	4078.0
30°	5581.3	5597.5	5393.7	5079.7	4787.2	4537.8	4348.2	4307.1	4418.9	5044.0	4148.7
32.5°	6121.6	6135.1	5909.6	5589.4	5248.7	4955.4	4706.0	4640.6	4664.8	5293.4	4252.4
35°	6808.4	6811.0	6525.8	6144.9	5780.9	5436.5	5120.9	5056.5	5029.6	5608.3	4401.9
37.5°	7354.9	7333.5	7152.8	6792.4	6374.7	6015.2	5644.1	5560.0	5495.7	6051.0	4633.5
40°	7483.6	7483.6	7456.8	7348.6	7016.8	6670.8	6311.2	6186.0	6043.7	6572.3	4944.7
42.5°	7148.3	7169.7	7346.8	7582.1	7584.7	7362.9	7011.5	6905.9	6655.5	7166.1	5284.5
45°	6398.0	6404.1	6828.9	7463.9	7895.1	8022.0	7762.7	7616.9	7270.0	7783.3	5595.7
47.5°	6127.9	6147.6	6328.2	7104.4	7918.3	8555.9	8483.5	8283.1	7838.7	8346.6	5886.4
50°	5713.0	5737.0	5957.9	6575.1	7709.1	8898.4	9173.0	8958.3	8356.6	8816.1	6030.4
52.5°	4720.2	4757.8	5069.9	5874.7	7185.8	8912.8	9804.5	9675.6	8886.8	9067.5	6013.3
55°	3248.1	3275.8	3639.8	4586.0	6130.6	8475.4	10076.3	10164.9	9359.9	9123.8	5931.1
56°	2620.4	2724.1	2990.5	3907.3	5529.5	8103.4	10013.6	10218.5	9500.4	9114.8	5895.3
57.5°	1732.3	1752.0	2042.7	2831.4	4440.3	7295.9	9731.1	10104.0	9680.9	9069.3	5869.3
60°	814.8	823.7	928.3	1306.6	2403.1	5316.7	8812.6	9431.5	9747.1	8973.6	5868.4
62.5°	531.2	533.1	545.5	623.3	982.8	2895.7	7305.6	8196.5	9199.0	8962.7	5851.5
65°	437.4	441.7	426.5	436.4	514.2	1092.0	5153.0	6389.9	7912.0	8710.7	5660.1
67.5°	385.5	386.4	365.8	354.1	376.5	479.3	2596.2	4030.6	5917.7	7401.3	4662.1
70°	351.4	350.6	327.3	300.6	301.4	318.4	846.1	1674.1	3274.1	4394.7	2676.7
72.5°	312.2	313.9	300.6	262.9	250.4	225.4	318.4	451.7	1114.3	1411.2	705.6
75°	273.7	270.1	256.6	232.5	209.2	151.2	160.1	192.2	290.6	287.9	152.1
77.5°	207.5	203.9	210.2	198.5	163.6	105.6	87.7	100.3	131.4	122.4	61.8
80°	158.3	156.6	143.1	169.9	149.4	79.6	59.8	61.8	71.5	65.2	30.5
82.5°	114.4	113.5	108.2	104.7	94.9	58.1	45.6	48.2	53.7	45.6	22.4
85°	43.7	43.7	85.0	71.5	65.2	39.3	32.2	34.9	41.1	33.1	15.2
87.5°	7.1	7.1	57.2	47.4	29.6	19.7	20.7	22.4	24.2	19.7	11.6
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°	3318.8	3318.8	3318.8	3318.8	3318.8	3318.8	3318.8	3318.8	3318.8	3318.8	3318.8
2.5°	3309.9	3250.0	3118.5	2991.4	2880.5	2759.0	2697.3	2625.7	2598.8	2545.2	2550.6
5°	3343.9	3218.6	2954.9	2676.7	2421.8	2162.5	1978.2	1804.8	1708.1	1612.5	1612.5
7.5°	3378.7	3187.4	2779.5	2335.1	1905.8	1461.4	1146.4	894.4	753.9	660.1	657.3
10°	3402.9	3147.1	2580.1	1938.9	1305.6	753.0	454.4	357.7	322.9	307.6	306.7
12.5°	3434.2	3106.9	2352.9	1472.1	725.3	357.7	283.4	268.4	262.0	258.4	258.4
15°	3461.0	3049.7	2077.5	990.0	381.1	268.4	244.2	238.8	238.0	237.1	238.0
17.5°	3467.3	2968.2	1747.6	579.5	276.4	234.3	223.6	219.0	219.0	218.2	218.2
20°	3452.9	2860.9	1382.6	357.7	238.8	215.6	203.9	198.5	197.6	197.6	197.6
22.5°	3423.4	2724.1	1022.2	271.0	217.3	198.5	183.3	178.0	178.0	178.9	179.8
25°	3386.8	2562.2	702.0	233.4	201.2	180.6	165.5	160.1	161.9	163.6	164.6
27.5°	3340.3	2369.0	459.8	202.1	179.8	162.8	149.4	145.7	149.4	152.9	154.7
30°	3293.7	2157.1	311.3	175.3	155.5	143.1	135.0	134.1	139.4	147.5	148.5
32.5°	3263.4	1939.8	235.1	157.5	136.8	126.1	122.4	124.3	132.4	141.4	143.1
35°	3260.7	1727.8	200.3	143.1	124.3	114.4	112.6	118.0	127.0	134.1	136.0
37.5°	3302.7	1529.3	181.5	132.4	114.4	104.7	102.0	111.7	119.8	127.0	128.7
40°	3387.7	1351.3	169.1	122.4	106.4	94.9	93.1	101.1	109.1	117.1	119.8
42.5°	3494.0	1185.0	154.7	112.6	97.5	84.1	82.3	88.6	96.6	108.2	110.0
45°	3586.3	1030.3	139.4	102.0	87.7	72.5	71.5	78.7	85.0	95.7	97.5
47.5°	3663.9	901.4	125.3	90.3	75.1	64.4	63.5	67.1	70.6	80.5	82.3
50°	3622.9	792.3	110.9	74.2	60.8	55.4	54.5	54.5	59.0	68.9	70.6
52.5°	3521.9	724.5	97.5	61.8	50.0	47.4	44.7	45.6	50.0	54.5	55.4
55°	3440.4	692.2	85.9	54.5	42.0	39.3	36.7	35.8	36.7	34.9	33.1
56°	3420.7	688.6	83.2	52.8	40.2	36.7	33.1	31.4	30.5	26.8	26.0
57.5°	3411.9	688.6	78.7	49.1	37.5	33.1	28.7	25.1	21.5	18.8	18.8
60°	3404.7	693.1	73.3	42.8	32.2	26.8	20.7	15.2	12.5	12.5	12.5
62.5°	3389.5	691.2	67.1	35.8	27.7	20.7	12.5	9.8	9.0	9.8	10.7
65°	3218.6	642.1	59.0	28.7	21.5	14.4	7.1	7.1	8.1	9.8	10.7
67.5°	2593.4	486.5	48.2	22.4	15.2	10.7	6.3	6.3	8.1	9.8	10.7
70°	1424.6	256.6	41.1	16.1	11.6	9.0	6.3	5.4	8.1	9.8	10.7
72.5°	348.0	107.3	37.5	12.5	10.7	8.1	5.4	5.4	8.1	9.8	10.7
75°	85.9	80.5	30.5	9.8	9.0	7.1	5.4	5.4	8.1	9.8	10.7
77.5°	40.2	106.4	20.7	9.0	8.1	6.3	5.4	5.4	8.1	9.8	9.8
80°	24.2	80.5	12.5	8.1	7.1	6.3	5.4	5.4	8.1	9.8	10.7
82.5°	14.4	23.3	9.0	8.1	7.1	5.4	5.4	5.4	8.1	9.8	10.7
85°	12.5	11.6	9.0	8.1	7.1	6.3	5.4	5.4	9.0	10.7	10.7
87.5°	9.8	9.0	8.1	7.1	7.1	6.3	5.4	5.4	8.1	9.8	10.7
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)