

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: P195993

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195993
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-03-D-UNV-AFL-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 800mA 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: 12565.9 lumens
Efficiency: N/A
Efficacy: 101.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G2

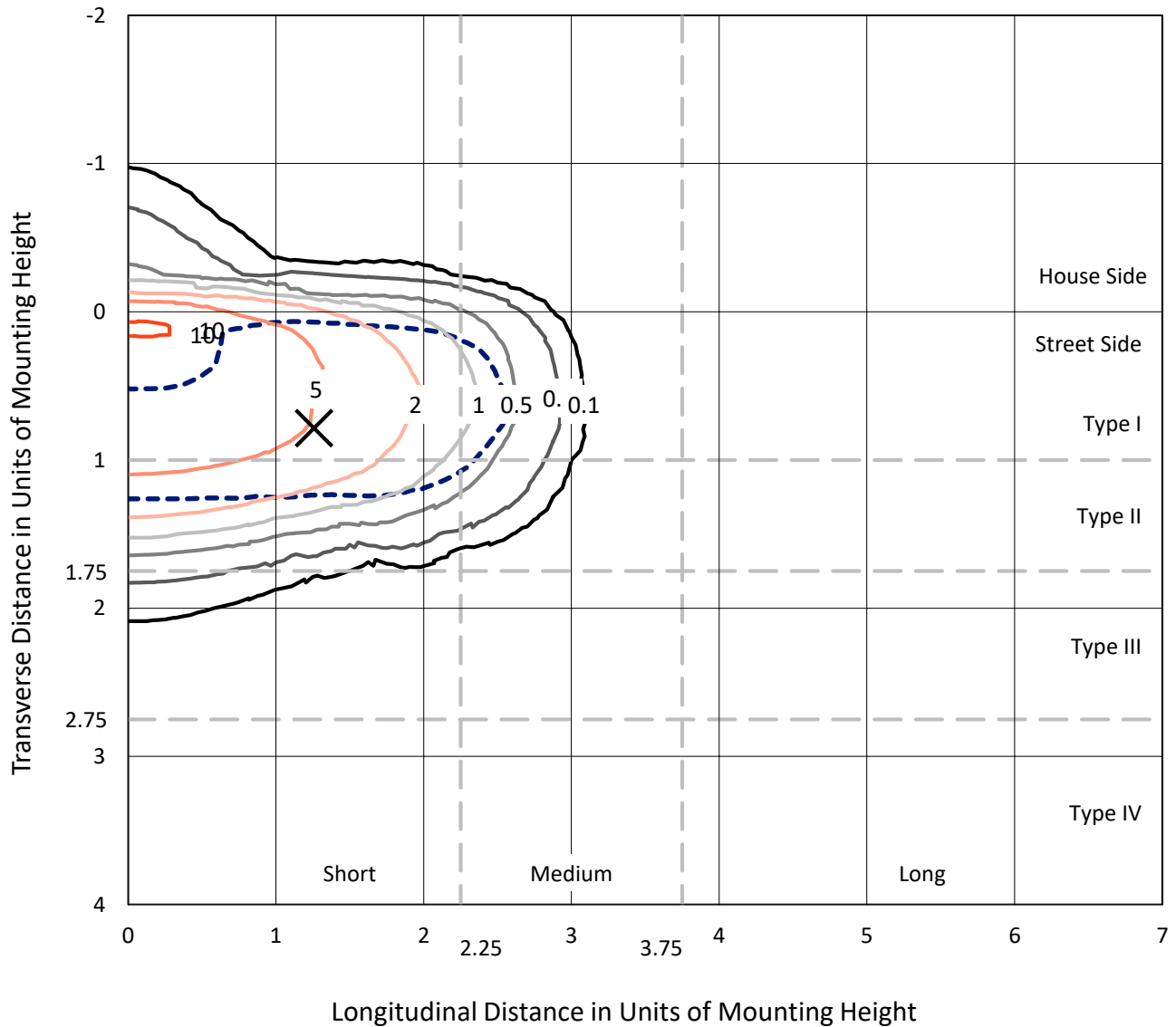
Input Watts (W): 124
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

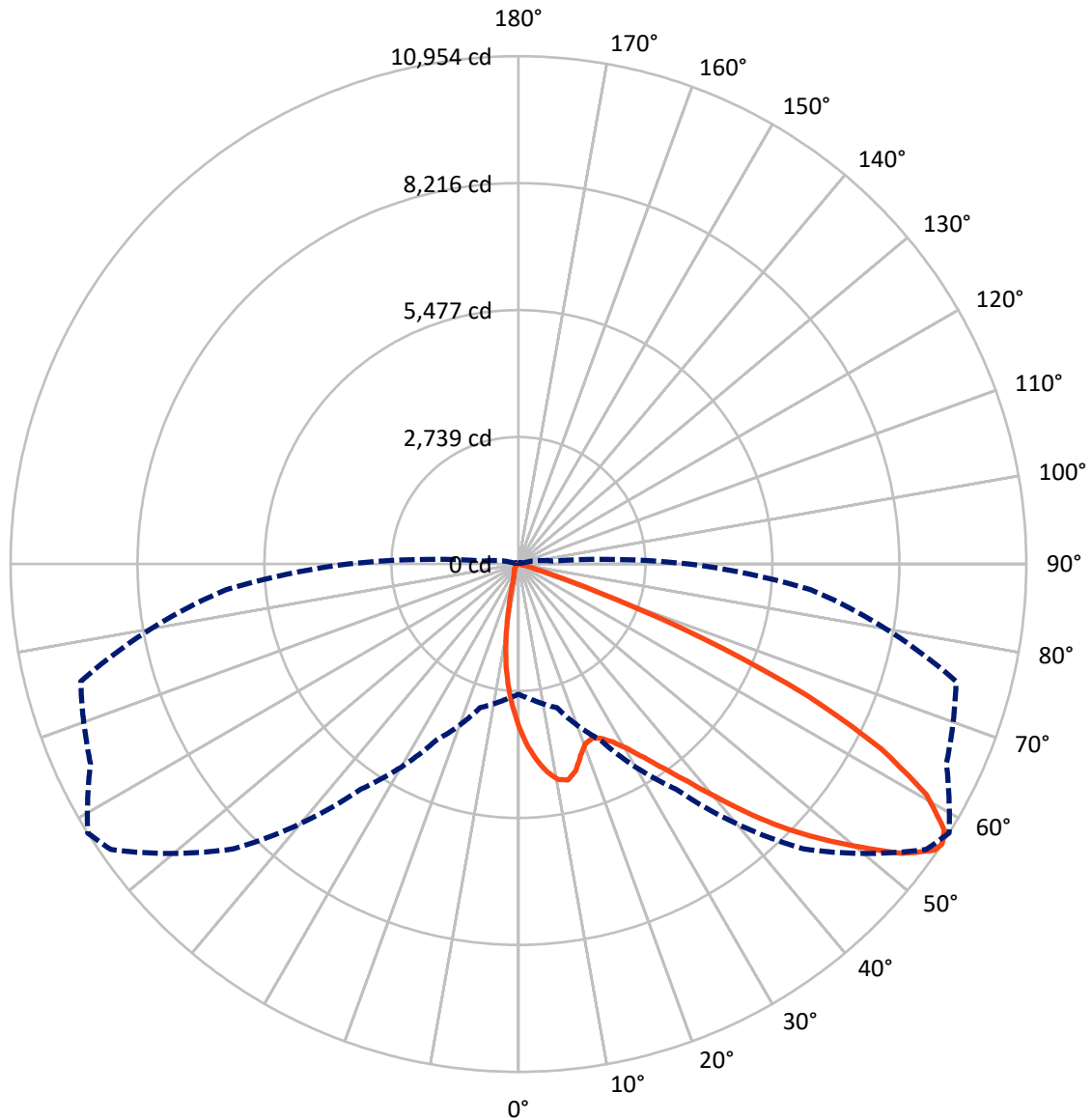
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 11.1 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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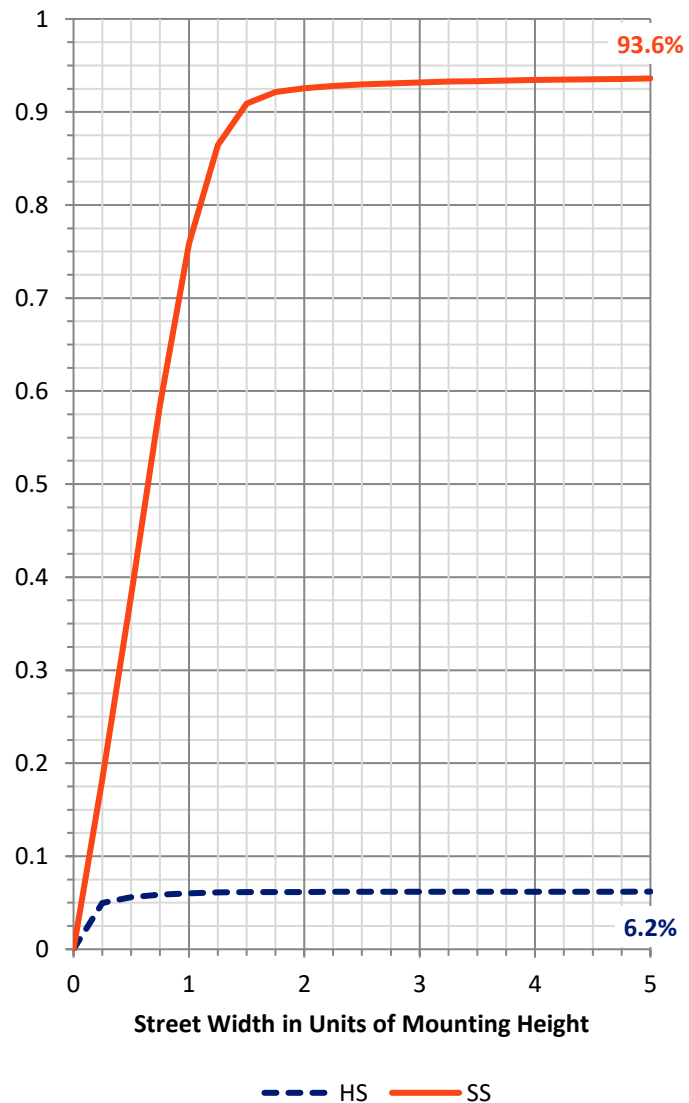
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	784.4	0.0	784.4
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	11781.5	0.0	11781.5
	% Fixture	93.8	0.0	93.8
Total	Lumens	12565.9	0.0	12565.9
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	303.5	2.4
10°-20°	706.2	5.6
20°-30°	1188.3	9.5
30°-40°	2034.8	16.2
40°-50°	3070.6	24.4
50°-60°	3191.8	25.4
60°-70°	1791.8	14.3
70°-80°	245.6	2.0
80°-90°	33.3	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°	12565.9	100.0
0°-180°	12565.9	100.0

Coefficient of Utilization



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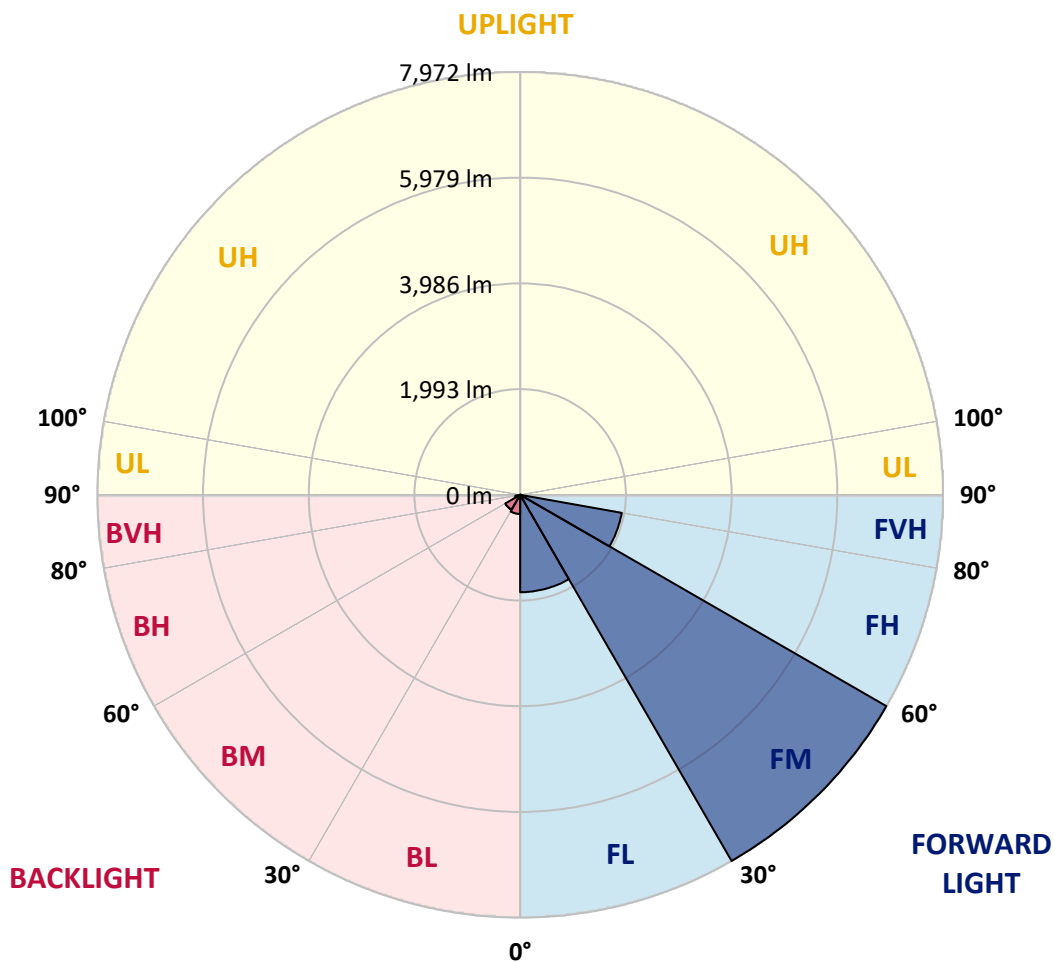
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1836.2	14.6			
FM	(30°-60°)	7972.3	63.4			
FH	(60°-80°)	1944.4	15.5			G2/5000
FVH	(80°-90°)	28.7	0.2			G1/100
BL	(0°-30°)	361.8	2.9	B1/500		
BM	(30°-60°)	324.9	2.6	B1/1000		
BH	(60°-80°)	93.0	0.7	B0/110		G0/110
BVH	(80°-90°)	4.6	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°	3557.8	3557.8	3557.8	3557.8	3557.8	3557.8	3557.8	3557.8	3557.8	3557.8	3557.8
2.5°	4280.6	4254.8	4228.0	4178.0	4132.1	4061.1	3963.3	3939.4	3862.7	3736.1	3618.2
5°	4649.7	4645.0	4626.8	4586.5	4536.7	4450.3	4340.1	4266.3	4147.5	3948.0	3720.8
7.5°	4431.2	4471.4	4537.6	4631.5	4694.8	4686.2	4601.8	4537.6	4419.7	4147.5	3821.4
10°	3735.2	3742.9	3833.9	4031.4	4344.0	4635.4	4745.7	4728.4	4620.1	4321.9	3909.6
12.5°	3489.7	3494.5	3515.6	3578.9	3782.2	4188.7	4688.1	4778.2	4769.6	4488.7	4003.6
15°	3508.9	3511.8	3517.5	3537.7	3595.2	3799.3	4396.6	4625.8	4865.5	4646.9	4095.6
17.5°	3660.4	3658.5	3640.3	3621.0	3639.2	3706.4	4099.5	4341.1	4845.3	4780.1	4171.4
20°	3955.6	3965.3	3903.9	3818.6	3774.5	3777.3	3952.8	4133.9	4732.2	4883.7	4228.0
22.5°	4370.8	4377.5	4276.9	4129.1	3999.7	3934.6	3983.5	4079.3	4601.8	4979.5	4274.0
25°	4866.5	4866.5	4725.5	4515.5	4315.2	4172.3	4130.2	4166.6	4552.0	5088.0	4320.0
27.5°	5401.4	5420.6	5236.5	4961.3	4696.8	4487.8	4355.4	4348.8	4590.3	5224.0	4371.8
30°	5983.3	6000.6	5782.0	5445.5	5132.0	4864.5	4661.3	4617.2	4737.0	5407.1	4447.5
32.5°	6562.4	6576.8	6335.2	5991.9	5626.7	5312.3	5044.8	4974.8	5000.7	5674.6	4558.7
35°	7298.8	7301.6	6995.8	6587.3	6197.1	5828.1	5489.6	5420.6	5391.8	6012.1	4718.8
37.5°	7884.5	7861.5	7667.8	7281.5	6833.7	6448.3	6050.4	5960.3	5891.3	6486.6	4967.1
40°	8022.5	8022.5	7993.7	7877.7	7522.1	7151.0	6765.7	6631.5	6479.0	7045.6	5300.7
42.5°	7663.0	7686.0	7875.8	8128.0	8130.8	7893.1	7516.3	7403.2	7134.8	7682.2	5665.1
45°	6858.7	6865.3	7320.7	8001.4	8463.6	8599.6	8321.6	8165.4	7793.4	8343.7	5998.7
47.5°	6569.1	6590.3	6783.9	7616.1	8488.4	9172.1	9094.3	8879.6	8403.1	8947.6	6310.3
50°	6124.3	6150.2	6387.0	7048.4	8264.1	9539.2	9833.5	9603.5	8958.3	9451.0	6464.6
52.5°	5060.1	5100.3	5434.9	6297.8	7703.3	9554.6	10510.4	10372.3	9526.7	9720.4	6446.4
55°	3482.0	3511.8	3901.9	4916.3	6571.9	9085.7	10801.8	10896.8	10033.9	9780.8	6358.3
56°	2809.0	2920.2	3205.9	4188.7	5927.7	8686.9	10734.7	10954.3	10184.4	9771.2	6319.9
57.5°	1857.1	1878.1	2189.7	3035.3	4760.0	7821.2	10431.7	10831.6	10378.1	9722.3	6292.1
60°	873.4	883.0	995.1	1400.7	2576.1	5699.6	9447.2	10110.6	10449.0	9619.7	6291.0
62.5°	569.5	571.4	584.8	668.2	1053.6	3104.3	7831.7	8786.6	9861.3	9608.3	6272.8
65°	468.8	473.6	457.3	467.9	551.3	1170.6	5524.1	6850.0	8481.8	9337.9	6067.7
67.5°	413.2	414.2	392.1	379.6	403.7	513.8	2783.1	4320.9	6343.8	7934.3	4997.8
70°	376.8	375.8	350.9	322.1	323.0	341.3	906.9	1794.7	3509.8	4711.1	2869.5
72.5°	334.6	336.6	322.1	281.8	268.4	241.6	341.3	484.2	1194.6	1512.8	756.5
75°	293.4	289.5	275.2	249.3	224.3	162.0	171.7	206.1	311.6	308.7	163.0
77.5°	222.4	218.6	225.3	212.9	175.4	113.1	93.9	107.4	141.0	131.3	66.2
80°	169.7	167.8	153.4	182.2	160.1	85.3	64.2	66.2	76.7	70.0	32.6
82.5°	122.8	121.7	116.0	112.2	101.6	62.3	48.9	51.8	57.5	48.9	23.9
85°	47.0	47.0	91.0	76.7	70.0	42.1	34.5	37.4	44.1	35.5	16.3
87.5°	7.7	7.7	61.4	50.8	31.6	21.1	22.1	23.9	25.9	21.1	12.5
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°	3557.8	3557.8	3557.8	3557.8	3557.8	3557.8	3557.8	3557.8	3557.8	3557.8	3557.8
2.5°	3548.2	3484.0	3343.0	3207.0	3088.0	2957.7	2891.5	2814.8	2786.0	2728.5	2734.2
5°	3584.6	3450.4	3167.6	2869.5	2596.2	2318.2	2120.7	1934.7	1831.2	1728.6	1728.6
7.5°	3622.1	3416.9	2979.7	2503.2	2043.0	1566.5	1229.1	958.7	808.2	707.6	704.6
10°	3647.9	3373.7	2765.9	2078.5	1399.7	807.2	487.0	383.5	346.1	329.8	328.9
12.5°	3681.5	3330.6	2522.4	1578.0	777.5	383.5	303.9	287.7	280.9	277.1	277.1
15°	3710.2	3269.2	2227.1	1061.3	408.4	287.7	261.8	255.9	255.0	254.1	255.0
17.5°	3716.9	3182.0	1873.3	621.2	296.2	251.1	239.7	234.9	234.9	233.9	233.9
20°	3701.6	3066.9	1482.2	383.5	255.9	231.1	218.6	212.9	211.9	211.9	211.9
22.5°	3669.9	2920.2	1095.8	290.5	232.9	212.9	196.5	190.8	190.8	191.7	192.7
25°	3630.7	2746.7	752.6	250.2	215.7	193.6	177.4	171.7	173.5	175.4	176.4
27.5°	3580.8	2539.7	492.8	216.7	192.7	174.5	160.1	156.3	160.1	164.0	165.8
30°	3530.9	2312.4	333.6	187.9	166.8	153.4	144.7	143.8	149.6	158.1	159.2
32.5°	3498.4	2079.5	252.2	168.7	146.7	135.1	131.3	133.3	141.9	151.5	153.4
35°	3495.5	1852.3	214.7	153.4	133.3	122.8	120.8	126.5	136.2	143.8	145.8
37.5°	3540.5	1639.4	194.7	141.9	122.8	112.2	109.3	119.9	128.5	136.2	138.1
40°	3631.6	1448.6	181.2	131.3	114.1	101.6	99.7	108.3	116.9	125.6	128.5
42.5°	3745.7	1270.3	165.8	120.8	104.5	90.1	88.2	94.9	103.5	116.0	117.9
45°	3844.5	1104.5	149.6	109.3	93.9	77.6	76.7	84.4	91.0	102.6	104.5
47.5°	3927.8	966.4	134.2	96.9	80.5	69.0	68.0	71.9	75.7	86.2	88.2
50°	3883.7	849.5	118.9	79.6	65.2	59.4	58.5	58.5	63.3	73.9	75.7
52.5°	3775.4	776.5	104.5	66.2	53.7	50.8	48.0	48.9	53.7	58.5	59.4
55°	3688.1	742.0	92.1	58.5	45.0	42.1	39.3	38.4	39.3	37.4	35.5
56°	3667.1	738.2	89.2	56.6	43.2	39.3	35.5	33.6	32.6	28.7	27.8
57.5°	3657.5	738.2	84.4	52.7	40.3	35.5	30.7	26.8	23.0	20.2	20.2
60°	3649.8	743.0	78.7	46.0	34.5	28.7	22.1	16.3	13.4	13.4	13.4
62.5°	3633.5	741.1	71.9	38.4	29.8	22.1	13.4	10.5	9.6	10.5	11.5
65°	3450.4	688.3	63.3	30.7	23.0	15.3	7.7	7.7	8.6	10.5	11.5
67.5°	2780.3	521.5	51.8	23.9	16.3	11.5	6.8	6.8	8.6	10.5	11.5
70°	1527.3	275.2	44.1	17.3	12.5	9.6	6.8	5.7	8.6	10.5	11.5
72.5°	373.0	115.1	40.3	13.4	11.5	8.6	5.7	5.7	8.6	10.5	11.5
75°	92.1	86.2	32.6	10.5	9.6	7.7	5.7	5.7	8.6	10.5	11.5
77.5°	43.2	114.1	22.1	9.6	8.6	6.8	5.7	5.7	8.6	10.5	10.5
80°	25.9	86.2	13.4	8.6	7.7	6.8	5.7	5.7	8.6	10.5	11.5
82.5°	15.3	25.0	9.6	8.6	7.7	5.7	5.7	5.7	8.6	10.5	11.5
85°	13.4	12.5	9.6	8.6	7.7	6.8	5.7	5.7	9.6	11.5	11.5
87.5°	10.5	9.6	8.6	7.7	7.7	6.8	5.7	5.7	8.6	10.5	11.5
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)