

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: P196594

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-7030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196594
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-SL3-7030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 800mA 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: 16183.5 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G3

Input Watts (W): 171
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

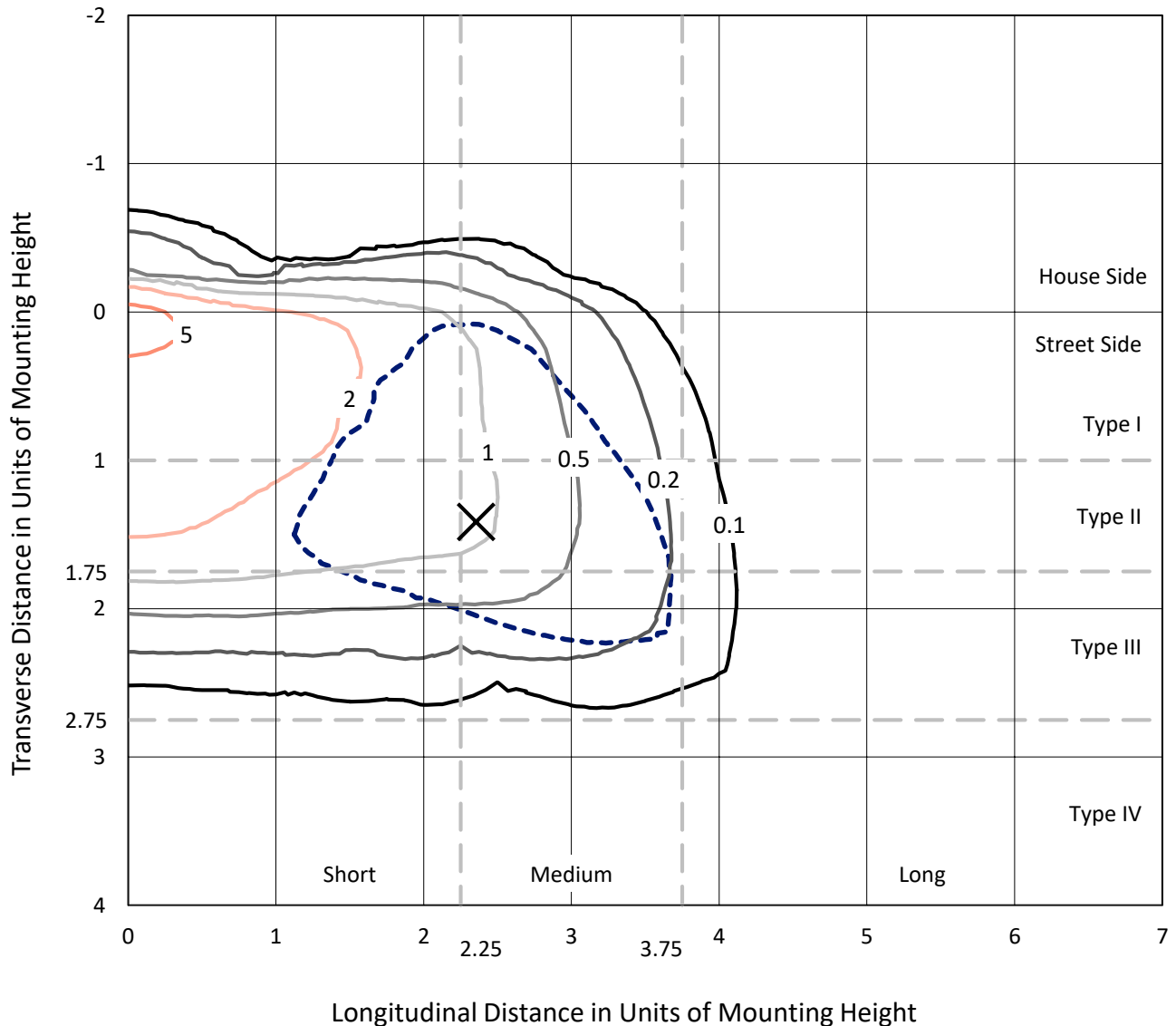


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Iso-Footcandle Lines of Horizontal Illumination

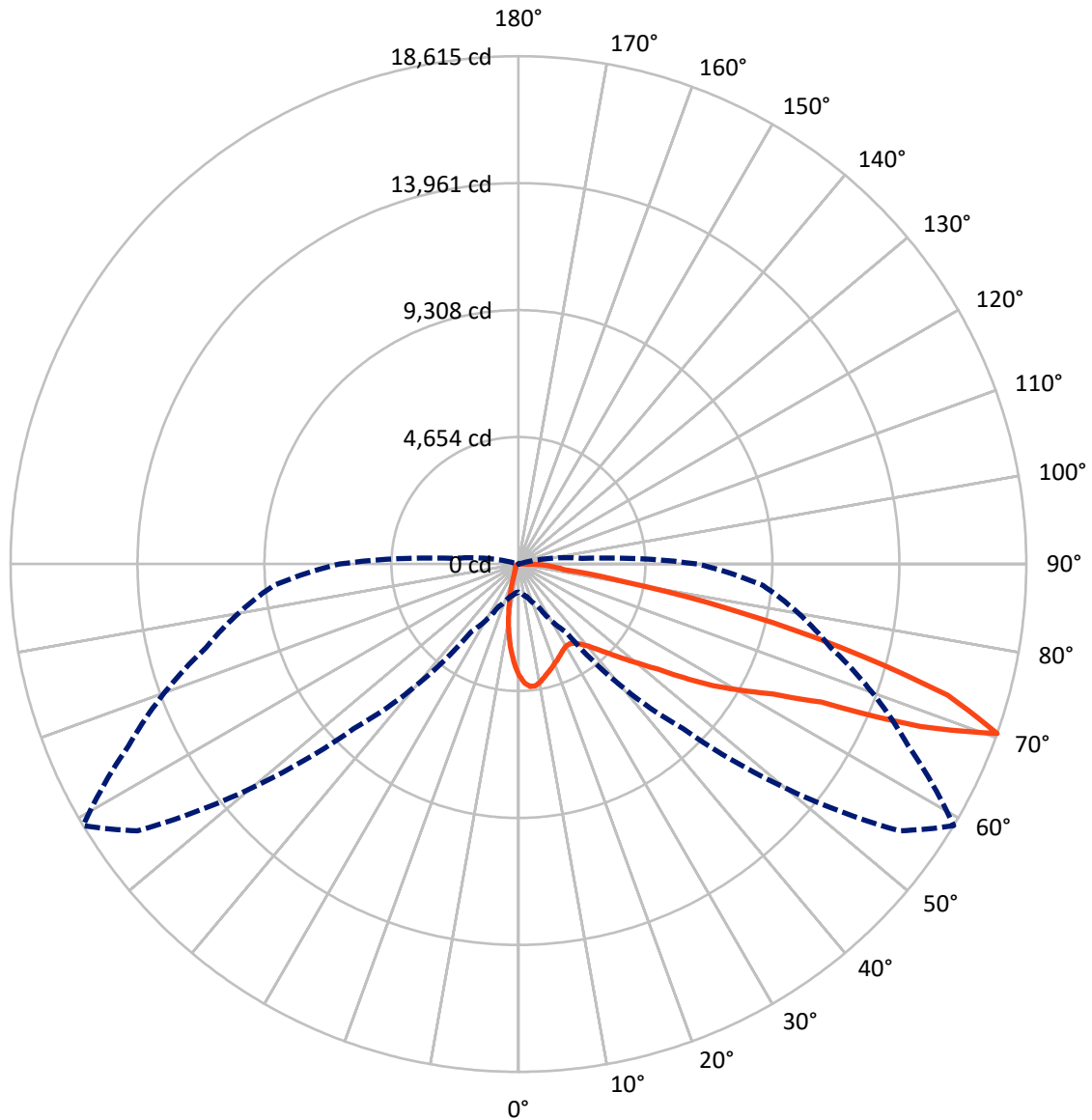
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7 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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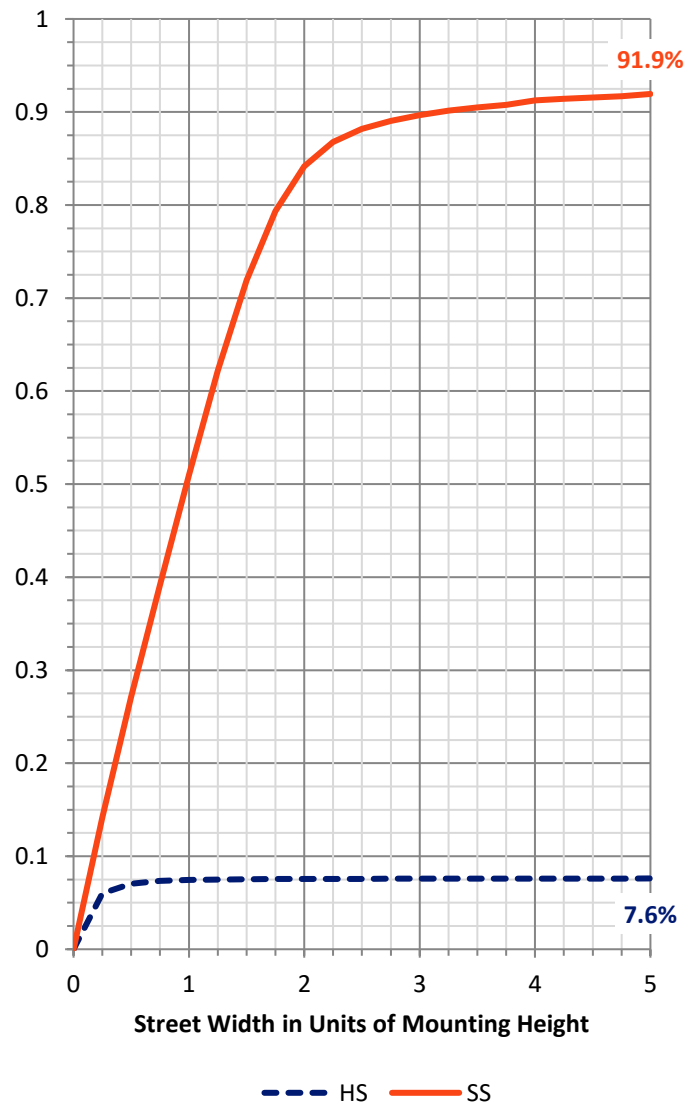
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1244.1	0.0	1244.1
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	14939.4	0.0	14939.4
	% Fixture	92.3	0.0	92.3
Total	Lumens	16183.5	0.0	16183.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	336.5	2.1
10°-20°	705.8	4.4
20°-30°	955.4	5.9
30°-40°	1378.8	8.5
40°-50°	2289.9	14.1
50°-60°	3502.6	21.6
60°-70°	4356.5	26.9
70°-80°	2408.2	14.9
80°-90°	249.7	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°	16183.5	100.0
0°-180°	16183.5	100.0



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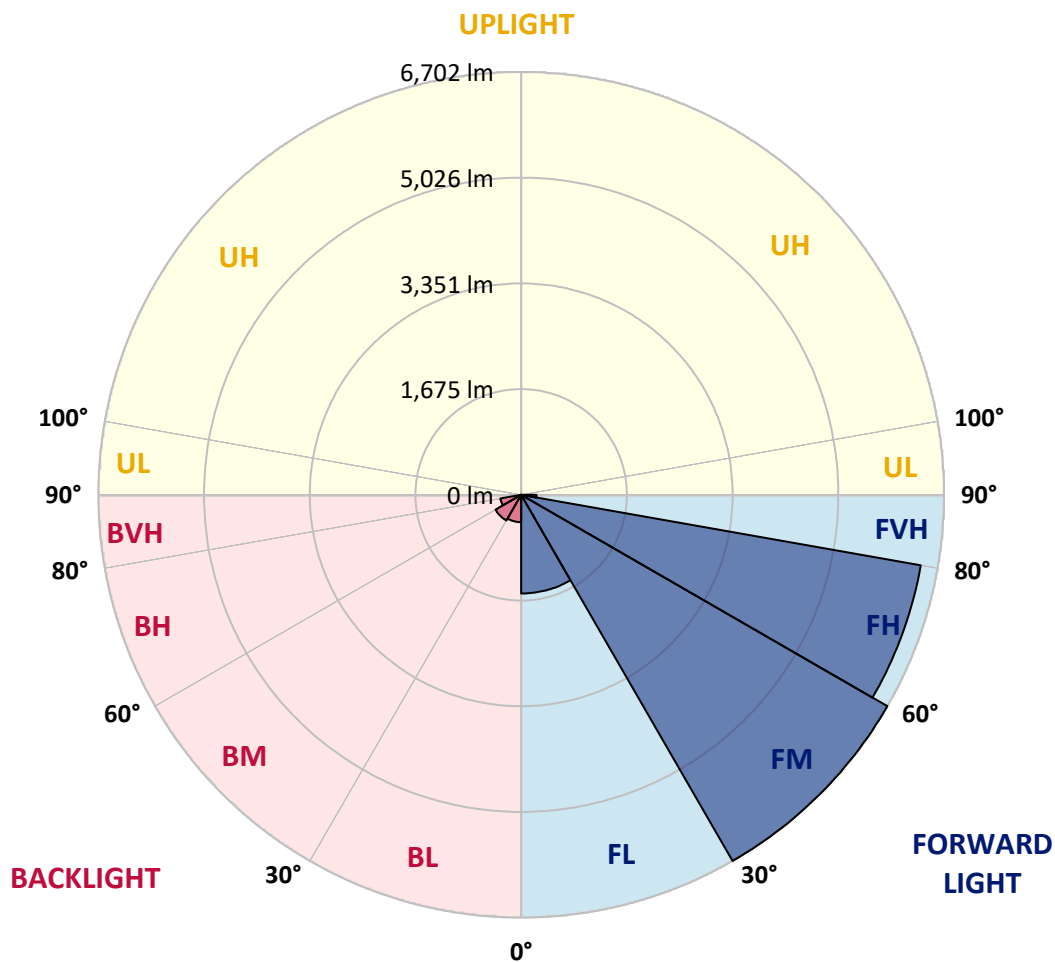
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1564.2	9.7			
FM	(30°-60°)	6701.8	41.4			
FH	(60°-80°)	6431.0	39.7			G3/7500
FVH	(80°-90°)	242.5	1.5			G3/500
BL	(0°-30°)	433.5	2.7	B1/500		
BM	(30°-60°)	469.6	2.9	B1/1000		
BH	(60°-80°)	333.7	2.1	B1/500		G1/500
BVH	(80°-90°)	7.2	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-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	4092.2	4092.2	4092.2	4092.2	4092.2	4092.2	4092.2	4092.2	4092.2	4092.2	4092.2
2.5°	4625.7	4618.4	4587.9	4581.8	4547.6	4479.2	4399.9	4368.0	4303.4	4200.9	4087.4
5°	4702.6	4706.4	4708.7	4695.3	4690.4	4634.2	4546.4	4508.5	4421.8	4253.4	4045.9
7.5°	4414.5	4424.2	4454.8	4468.2	4526.8	4548.8	4530.6	4506.1	4437.7	4238.7	3947.0
10°	4110.6	4128.8	4161.8	4183.7	4255.7	4314.4	4388.8	4395.0	4380.3	4189.9	3835.9
12.5°	3849.3	3866.3	3903.0	3947.0	4020.2	4095.9	4207.0	4246.1	4294.9	4158.2	3756.5
15°	3624.6	3629.5	3664.9	3719.8	3816.3	3920.1	4051.9	4109.3	4204.6	4146.0	3695.4
17.5°	3428.1	3429.3	3452.5	3502.6	3619.8	3756.5	3910.3	3986.0	4106.8	4128.8	3641.7
20°	3298.6	3297.5	3298.6	3325.6	3429.3	3591.7	3778.5	3857.8	4012.9	4108.0	3586.8
22.5°	3254.8	3248.6	3220.5	3210.8	3276.6	3419.6	3642.9	3746.7	3928.6	4102.0	3546.5
25°	3308.5	3304.8	3245.0	3188.8	3195.0	3284.0	3505.0	3632.0	3862.8	4124.0	3536.7
27.5°	3481.8	3474.5	3382.8	3273.1	3203.5	3219.4	3402.5	3535.5	3810.2	4177.6	3550.2
30°	3709.0	3710.1	3612.4	3479.4	3315.8	3225.5	3347.4	3473.3	3774.8	4258.3	3579.5
32.5°	3961.6	3960.3	3890.8	3737.0	3528.2	3337.8	3372.0	3478.2	3779.8	4376.7	3635.6
35°	4222.9	4209.4	4186.3	4050.7	3806.6	3534.3	3483.0	3561.2	3830.9	4532.9	3730.8
37.5°	4524.4	4519.5	4542.7	4399.9	4150.9	3823.6	3678.3	3730.8	3960.3	4763.7	3884.7
40°	5004.2	4977.3	4988.3	4794.2	4539.0	4213.0	3951.8	3965.2	4166.7	5068.9	4127.6
42.5°	5918.6	5810.0	5606.1	5242.3	4966.4	4645.2	4309.5	4286.3	4458.5	5438.8	4447.5
45°	7011.2	6886.7	6372.8	5736.6	5393.6	5109.2	4751.4	4689.2	4817.3	5879.6	4860.1
47.5°	7923.2	7788.9	7107.7	6253.1	5828.2	5587.7	5241.0	5167.8	5247.1	6391.0	5355.8
50°	8234.6	8160.0	7561.9	6682.9	6266.6	6124.8	5855.1	5733.1	5752.5	6942.9	5934.4
52.5°	8091.6	8066.1	7665.6	6977.1	6671.8	6718.3	6527.8	6399.6	6377.6	7546.0	6574.1
55°	7790.0	7777.9	7582.6	7140.6	7029.5	7261.5	7471.4	7360.4	7152.8	8186.9	7102.8
57.5°	7359.1	7405.6	7546.0	7455.7	7469.1	7835.3	8348.1	8405.5	8095.3	8697.1	7494.6
60°	6207.9	6332.4	6975.7	7793.8	8420.1	8790.0	9286.8	9394.3	8893.7	9046.3	7947.6
62.5°	4589.1	4767.3	5684.2	7187.1	8943.8	10605.4	10535.8	10488.2	9655.6	9514.0	8771.7
65°	2695.7	2904.3	3679.7	5615.8	8153.9	11772.4	12867.6	12208.3	10816.5	10485.7	10084.1
67.5°	1342.9	1344.1	1694.5	2964.2	6025.9	10958.1	16271.2	15890.3	13285.1	11917.8	10601.7
70°	1032.8	1060.9	1253.8	1722.6	3047.2	8534.8	17051.3	18615.1	15765.8	11854.3	8995.1
72.5°	875.3	893.6	1115.9	1499.1	2278.0	4685.6	14761.0	16454.3	15044.2	10015.7	6630.3
75°	630.0	644.6	987.7	1360.0	2097.3	2324.5	10125.6	12203.3	11287.8	7045.4	3649.0
77.5°	156.2	155.0	344.2	1103.6	1876.4	1936.2	5810.0	7825.4	6476.5	2884.8	937.6
80°	69.6	67.2	78.1	231.9	1745.8	1827.6	2555.2	3951.8	2484.3	467.6	287.0
82.5°	48.8	46.4	48.8	85.4	583.6	1695.7	1544.4	1712.8	909.5	159.9	122.1
85°	15.9	14.6	26.9	72.0	163.6	977.9	1506.4	1279.4	676.4	68.4	81.8
87.5°	2.4	2.4	9.8	39.2	47.6	325.9	883.9	886.3	304.0	40.3	36.6
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°	4092.2	4092.2	4092.2	4092.2	4092.2	4092.2	4092.2	4092.2	4092.2	4092.2	4092.2
2.5°	4029.9	3957.9	3856.7	3755.2	3663.7	3569.7	3494.0	3458.6	3442.8	3420.8	3373.2
5°	3937.1	3806.6	3584.4	3365.8	3162.0	2966.6	2799.3	2704.1	2601.6	2596.6	2546.7
7.5°	3788.2	3602.8	3252.3	2912.9	2601.6	2303.7	2047.3	1881.3	1767.9	1696.9	1648.0
10°	3622.2	3384.1	2920.2	2442.9	2019.2	1621.3	1291.7	1076.8	946.1	880.2	842.4
12.5°	3490.4	3191.3	2593.0	1992.4	1461.4	1004.7	698.2	542.0	472.4	445.6	433.4
15°	3376.7	3014.3	2286.6	1589.5	975.4	577.4	404.0	352.8	341.9	341.9	340.6
17.5°	3262.1	2843.4	1988.7	1193.9	614.0	378.5	318.6	311.3	312.5	316.2	316.2
20°	3153.4	2680.9	1701.8	850.9	402.8	302.7	289.3	287.0	290.5	295.4	294.2
22.5°	3065.5	2538.1	1433.3	584.7	310.1	274.7	266.1	262.4	265.0	268.6	267.3
25°	3003.2	2416.0	1186.7	407.7	269.8	250.3	240.5	235.7	233.2	235.7	234.4
27.5°	2965.4	2313.4	954.7	306.5	241.7	225.8	213.6	203.9	197.8	197.8	195.3
30°	2940.9	2217.0	748.3	253.9	218.5	201.5	184.3	170.9	161.1	158.8	157.5
32.5°	2939.7	2134.1	559.2	224.6	196.5	177.0	156.2	139.2	128.2	125.7	124.5
35°	2970.3	2066.8	411.5	202.6	177.0	153.8	130.7	112.3	102.6	102.6	101.3
37.5°	3049.7	2027.9	311.3	185.5	161.1	134.3	110.0	92.8	84.2	86.7	86.7
40°	3197.4	2020.4	253.9	172.1	147.7	117.2	89.1	75.7	72.0	75.7	75.7
42.5°	3423.2	2059.5	225.8	162.4	135.5	100.1	74.6	64.7	63.5	67.2	67.2
45°	3717.4	2136.4	210.0	153.8	122.1	83.0	62.3	56.2	54.9	59.9	59.9
47.5°	4074.0	2240.3	195.3	144.0	108.6	68.4	52.5	47.6	47.6	52.5	53.7
50°	4496.3	2380.6	180.8	134.3	97.7	57.4	43.9	40.3	41.5	46.4	47.6
52.5°	4982.2	2552.8	167.2	125.7	85.4	46.4	36.6	34.2	35.4	40.3	41.5
55°	5400.9	2703.0	151.5	117.2	69.6	37.8	30.5	29.3	30.5	36.6	36.6
57.5°	5765.9	2847.0	136.7	103.8	54.9	30.5	24.4	24.4	26.9	33.0	34.2
60°	6250.6	3074.0	124.5	88.0	41.5	23.2	19.5	20.8	24.4	29.3	30.5
62.5°	7108.9	3459.8	108.6	73.2	30.5	18.3	15.9	17.1	22.0	28.1	29.3
65°	8183.2	3824.8	90.3	61.0	23.2	13.4	12.2	15.9	22.0	28.1	29.3
67.5°	8073.3	3326.7	70.8	48.8	17.1	11.0	9.8	14.6	20.8	28.1	29.3
70°	6547.4	2331.8	52.5	33.0	13.4	9.8	9.8	14.6	20.8	26.9	28.1
72.5°	4541.5	1297.8	40.3	22.0	12.2	9.8	8.5	13.4	19.5	26.9	28.1
75°	2160.8	398.0	31.8	15.9	11.0	8.5	7.3	13.4	19.5	26.9	28.1
77.5°	415.0	101.3	25.6	13.4	9.8	8.5	7.3	12.2	19.5	25.6	26.9
80°	140.4	45.2	20.8	12.2	9.8	8.5	7.3	12.2	18.3	24.4	25.6
82.5°	76.9	25.6	18.3	11.0	9.8	7.3	6.1	11.0	17.1	24.4	25.6
85°	59.9	18.3	14.6	11.0	9.8	7.3	6.1	11.0	17.1	23.2	24.4
87.5°	30.5	13.4	12.2	11.0	9.8	7.3	6.1	9.8	15.9	22.0	24.4
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)