

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: P196949

Luminaire Tested: **NAV-AF-05-D-UNV-AFL-8030-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196949
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-05-D-UNV-AFL-8030-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 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: 13569 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 162
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

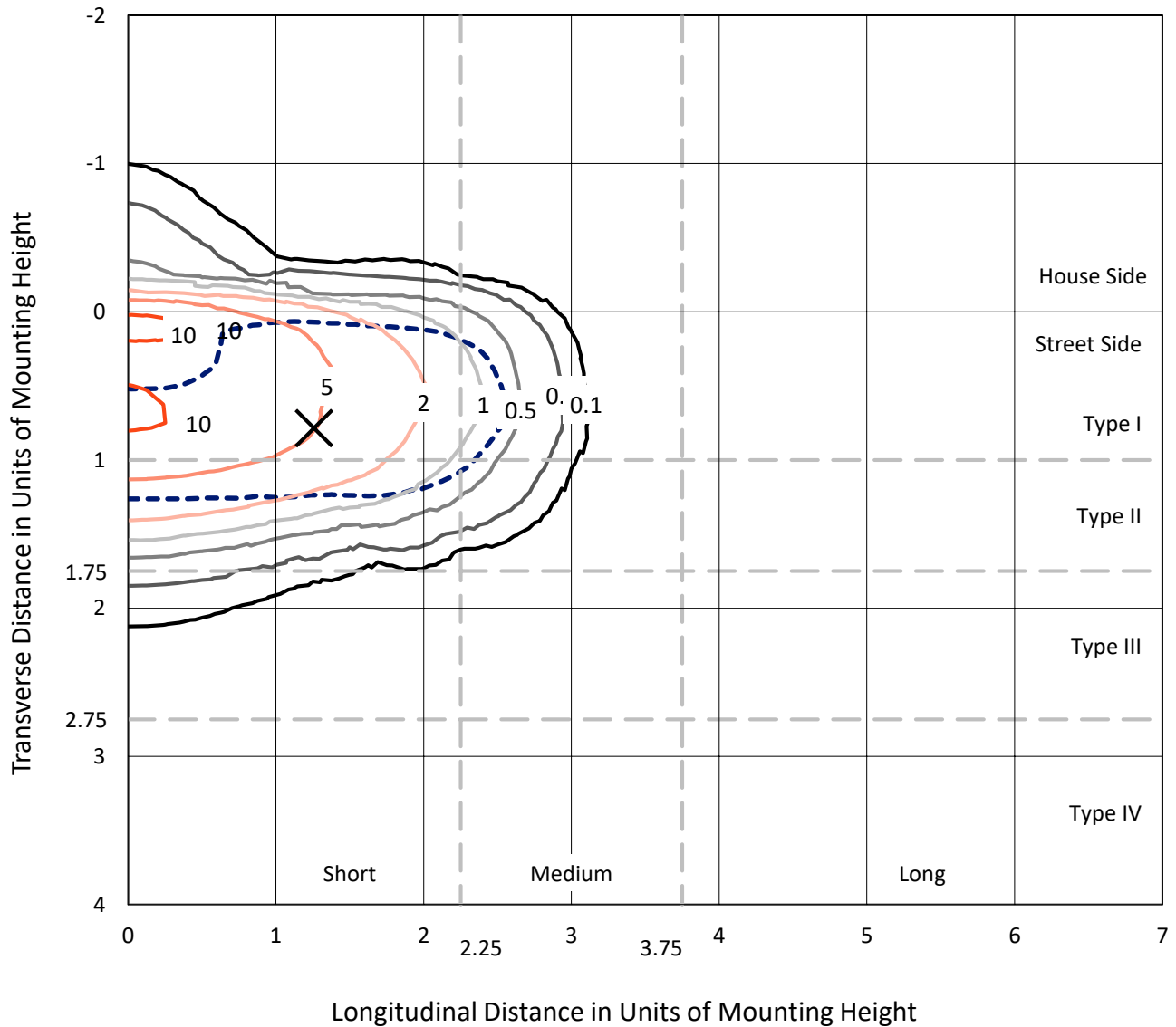


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

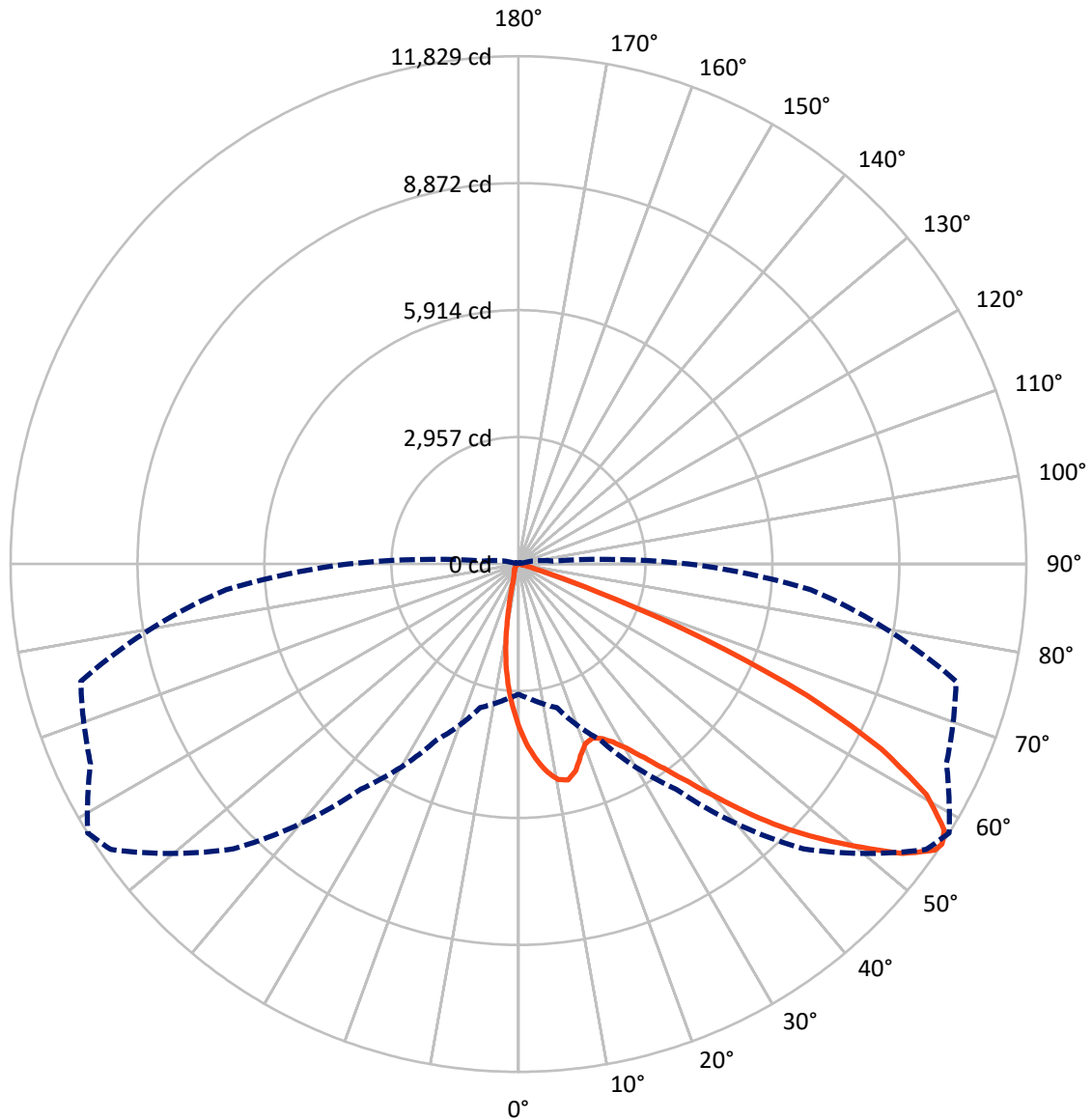


Based on 20 foot mounting height. Maximum calculated value = 11.9 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



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

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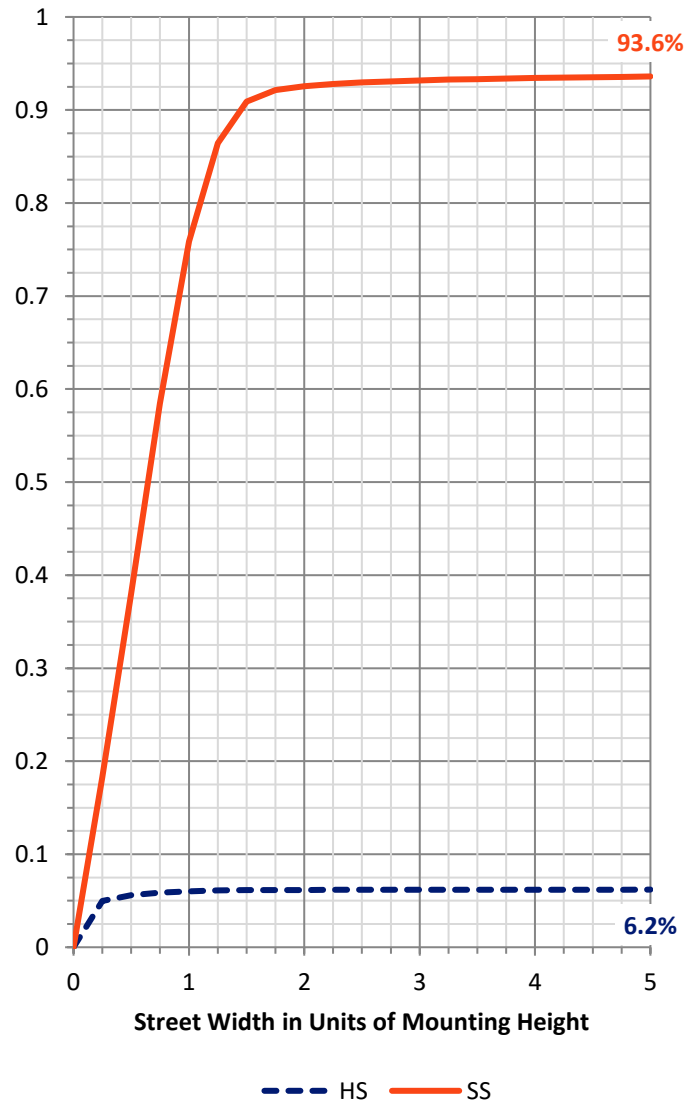
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	847.0	0.0	847.0
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	12722.0	0.0	12722.0
	% Fixture	93.8	0.0	93.8
Total	Lumens	13569.0	0.0	13569.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	327.7	2.4
10°-20°	762.6	5.6
20°-30°	1283.2	9.5
30°-40°	2197.3	16.2
40°-50°	3315.7	24.4
50°-60°	3446.6	25.4
60°-70°	1934.9	14.3
70°-80°	265.2	2.0
80°-90°	35.9	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°	13569.0	100.0
0°-180°	13569.0	100.0



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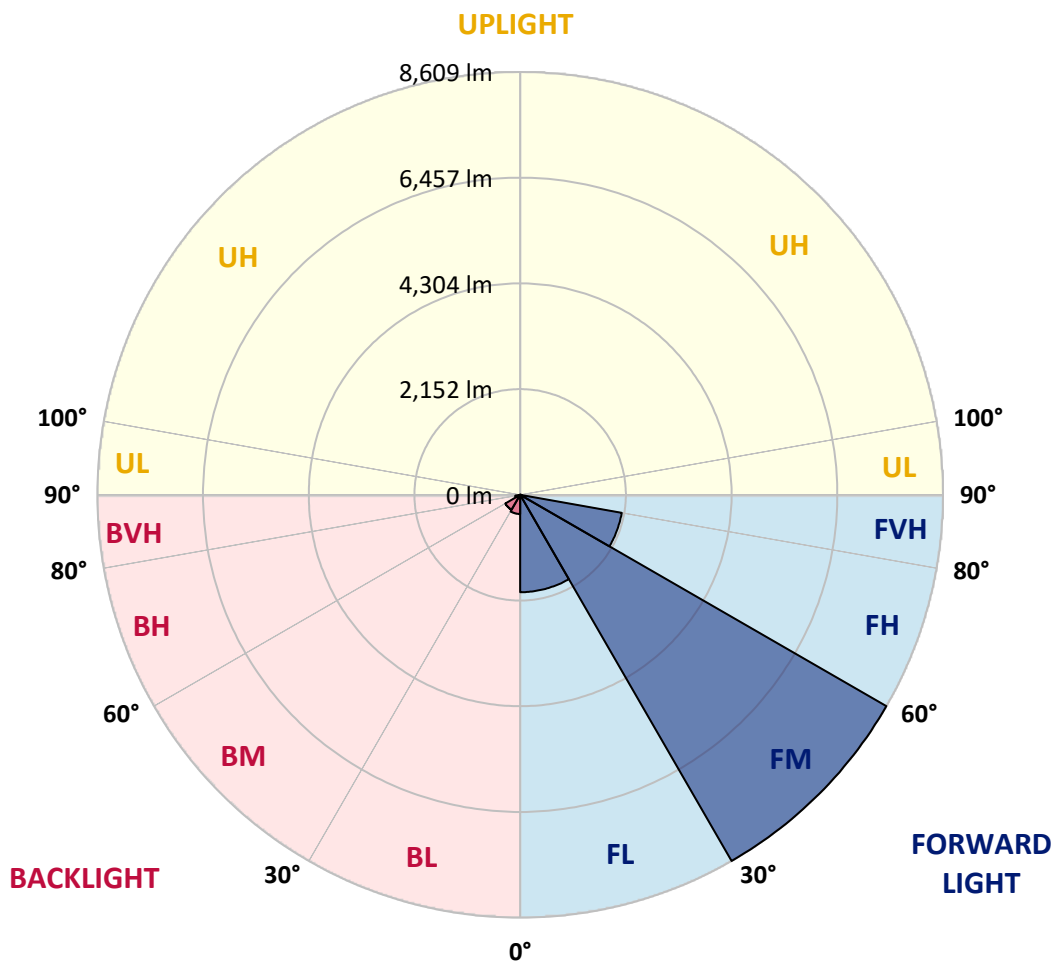
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1982.7	14.6			
FM	(30°-60°)	8608.7	63.4			
FH	(60°-80°)	2099.6	15.5			G2/5000
FVH	(80°-90°)	31.0	0.2			G1/100
BL	(0°-30°)	390.7	2.9	B1/500		
BM	(30°-60°)	350.8	2.6	B1/1000		
BH	(60°-80°)	100.5	0.7	B0/110		G0/110
BVH	(80°-90°)	5.0	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°	3841.8	3841.8	3841.8	3841.8	3841.8	3841.8	3841.8	3841.8	3841.8	3841.8	3841.8
2.5°	4622.4	4594.4	4565.4	4511.6	4461.9	4385.3	4279.7	4253.8	4171.0	4034.3	3907.0
5°	5020.9	5015.8	4996.1	4952.6	4898.8	4805.6	4686.6	4606.8	4478.5	4263.1	4017.8
7.5°	4784.9	4828.4	4899.8	5001.3	5069.6	5060.3	4969.2	4899.8	4772.5	4478.5	4126.5
10°	4033.3	4041.6	4139.9	4353.2	4690.7	5005.4	5124.5	5105.8	4988.8	4666.9	4221.7
12.5°	3768.3	3773.5	3796.2	3864.6	4084.0	4523.0	5062.3	5159.7	5150.3	4847.0	4323.2
15°	3789.0	3792.1	3798.3	3820.1	3882.2	4102.7	4747.6	4995.1	5253.9	5017.8	4422.6
17.5°	3952.6	3950.5	3930.8	3910.1	3929.8	4002.3	4426.7	4687.6	5232.1	5161.7	4504.4
20°	4271.4	4281.8	4215.5	4123.4	4075.8	4078.9	4268.3	4464.0	5110.0	5273.5	4565.4
22.5°	4719.7	4726.9	4618.2	4458.8	4319.0	4248.6	4301.4	4405.0	4969.2	5377.1	4615.1
25°	5254.9	5254.9	5102.7	4876.0	4659.6	4505.4	4459.8	4499.2	4915.3	5494.0	4664.8
27.5°	5832.6	5853.3	5654.5	5357.4	5071.7	4846.0	4703.1	4695.9	4956.8	5641.1	4720.7
30°	6461.0	6479.6	6243.6	5880.2	5541.7	5252.8	5033.4	4985.7	5115.1	5838.8	4802.5
32.5°	7086.3	7101.8	6840.9	6470.3	6075.9	5736.3	5447.5	5371.9	5399.8	6127.6	4922.6
35°	7881.3	7884.4	7554.2	7113.2	6691.8	6293.3	5927.8	5853.3	5822.2	6492.0	5095.5
37.5°	8513.9	8489.0	8279.9	7862.7	7379.2	6963.1	6533.4	6436.1	6361.6	7004.5	5363.6
40°	8662.9	8662.9	8631.9	8506.6	8122.5	7721.9	7305.7	7160.8	6996.2	7608.0	5723.9
42.5°	8274.7	8299.6	8504.5	8776.8	8779.9	8523.2	8116.3	7994.2	7704.3	8295.4	6117.3
45°	7406.1	7413.4	7905.1	8640.2	9139.1	9286.1	8985.9	8817.2	8415.5	9009.7	6477.5
47.5°	7093.5	7116.3	7325.4	8224.0	9166.1	9904.2	9820.3	9588.4	9073.9	9661.9	6814.0
50°	6613.1	6641.1	6896.8	7611.1	8923.8	10300.7	10618.5	10370.0	9673.3	10205.4	6980.7
52.5°	5464.0	5507.5	5868.8	6800.5	8318.2	10317.3	11349.4	11200.3	10287.2	10496.3	6961.0
55°	3760.0	3792.1	4213.4	5308.7	7096.6	9811.0	11664.1	11766.6	10834.9	10561.6	6865.7
56°	3033.3	3153.4	3461.9	4523.0	6400.9	9380.4	11591.6	11828.7	10997.4	10551.2	6824.3
57.5°	2005.3	2028.0	2364.5	3277.6	5140.0	8445.5	11264.5	11696.2	11206.5	10498.4	6794.3
60°	943.1	953.5	1074.6	1512.5	2781.7	6154.5	10201.3	10917.7	11283.1	10387.6	6793.3
62.5°	614.9	617.0	631.5	721.6	1137.7	3352.1	8456.9	9488.0	10648.5	10375.2	6773.6
65°	506.2	511.4	493.8	505.2	595.3	1264.0	5965.1	7396.8	9158.8	10083.3	6552.1
67.5°	446.2	447.2	423.4	410.0	435.8	554.9	3005.3	4665.8	6850.2	8567.7	5396.7
70°	406.9	405.8	378.9	347.8	348.9	368.5	979.3	1938.0	3790.0	5087.2	3098.5
72.5°	361.3	363.4	347.8	304.4	289.9	260.9	368.5	522.8	1289.9	1633.6	816.8
75°	316.8	312.6	297.1	269.2	242.2	175.0	185.3	222.6	336.5	333.3	176.0
77.5°	240.2	236.0	243.3	229.8	189.4	122.2	101.5	115.9	152.2	141.8	71.4
80°	183.2	181.2	165.6	196.7	172.9	92.1	69.4	71.4	82.8	75.6	35.2
82.5°	132.5	131.5	125.3	121.1	109.7	67.3	52.8	55.9	62.1	52.8	25.9
85°	50.7	50.7	98.3	82.8	75.6	45.6	37.3	40.4	47.6	38.3	17.6
87.5°	8.3	8.3	66.3	54.9	34.2	22.8	23.8	25.9	28.0	22.8	13.5
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°	3841.8	3841.8	3841.8	3841.8	3841.8	3841.8	3841.8	3841.8	3841.8	3841.8	3841.8
2.5°	3831.4	3762.1	3609.9	3462.9	3334.5	3193.7	3122.3	3039.5	3008.4	2946.3	2952.5
5°	3870.8	3725.8	3420.4	3098.5	2803.4	2503.2	2290.0	2089.1	1977.3	1866.5	1866.5
7.5°	3911.2	3689.6	3217.5	2703.0	2206.1	1691.6	1327.2	1035.2	872.7	764.0	760.9
10°	3939.1	3643.0	2986.7	2244.4	1511.5	871.7	525.9	414.1	373.7	356.1	355.1
12.5°	3975.3	3596.4	2723.7	1704.0	839.6	414.1	328.2	310.6	303.3	299.2	299.2
15°	4006.4	3530.2	2404.9	1146.0	441.0	310.6	282.6	276.4	275.4	274.3	275.4
17.5°	4013.6	3436.0	2022.9	670.8	319.9	271.2	258.8	253.6	253.6	252.6	252.6
20°	3997.1	3311.7	1600.5	414.1	276.4	249.5	236.0	229.8	228.8	228.8	228.8
22.5°	3962.9	3153.4	1183.3	313.7	251.6	229.8	212.2	206.0	206.0	207.0	208.1
25°	3920.5	2966.0	812.7	270.2	232.9	209.1	191.5	185.3	187.4	189.4	190.5
27.5°	3866.6	2742.4	532.1	234.0	208.1	188.4	172.9	168.7	172.9	177.0	179.1
30°	3812.8	2497.0	360.3	202.9	180.1	165.6	156.3	155.3	161.5	170.8	171.9
32.5°	3777.6	2245.4	272.3	182.2	158.4	146.0	141.8	143.9	153.2	163.6	165.6
35°	3774.5	2000.1	231.9	165.6	143.9	132.5	130.4	136.7	147.0	155.3	157.4
37.5°	3823.2	1770.3	210.2	153.2	132.5	121.1	118.0	129.4	138.7	147.0	149.1
40°	3921.5	1564.3	195.7	141.8	123.2	109.7	107.7	117.0	126.3	135.6	138.7
42.5°	4044.7	1371.7	179.1	130.4	112.8	97.3	95.2	102.5	111.8	125.3	127.3
45°	4151.3	1192.6	161.5	118.0	101.5	83.9	82.8	91.1	98.3	110.8	112.8
47.5°	4241.4	1043.5	144.9	104.6	87.0	74.5	73.5	77.6	81.8	93.2	95.2
50°	4193.8	917.2	128.4	85.9	70.4	64.2	63.1	63.1	68.3	79.7	81.8
52.5°	4076.8	838.5	112.8	71.4	58.0	54.9	51.8	52.8	58.0	63.1	64.2
55°	3982.6	801.3	99.4	63.1	48.7	45.6	42.4	41.4	42.4	40.4	38.3
56°	3959.8	797.1	96.3	61.1	46.6	42.4	38.3	36.2	35.2	31.1	30.0
57.5°	3949.5	797.1	91.1	56.9	43.5	38.3	33.1	29.0	24.8	21.7	21.7
60°	3941.2	802.3	84.9	49.7	37.3	31.1	23.8	17.6	14.5	14.5	14.5
62.5°	3923.6	800.2	77.6	41.4	32.1	23.8	14.5	11.4	10.4	11.4	12.4
65°	3725.8	743.3	68.3	33.1	24.8	16.6	8.3	8.3	9.3	11.4	12.4
67.5°	3002.2	563.2	55.9	25.9	17.6	12.4	7.2	7.2	9.3	11.4	12.4
70°	1649.1	297.1	47.6	18.6	13.5	10.4	7.2	6.2	9.3	11.4	12.4
72.5°	402.7	124.2	43.5	14.5	12.4	9.3	6.2	6.2	9.3	11.4	12.4
75°	99.4	93.2	35.2	11.4	10.4	8.3	6.2	6.2	9.3	11.4	12.4
77.5°	46.6	123.2	23.8	10.4	9.3	7.2	6.2	6.2	9.3	11.4	11.4
80°	28.0	93.2	14.5	9.3	8.3	7.2	6.2	6.2	9.3	11.4	12.4
82.5°	16.6	26.9	10.4	9.3	8.3	6.2	6.2	6.2	9.3	11.4	12.4
85°	14.5	13.5	10.4	9.3	8.3	7.2	6.2	6.2	10.4	12.4	12.4
87.5°	11.4	10.4	9.3	8.3	8.3	7.2	6.2	6.2	9.3	11.4	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)