

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: P195039

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-7060-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195039
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-7060-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5700K, 1050mA 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: 15204 lumens
Efficiency: N/A
Efficacy: 91.6 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): 166
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

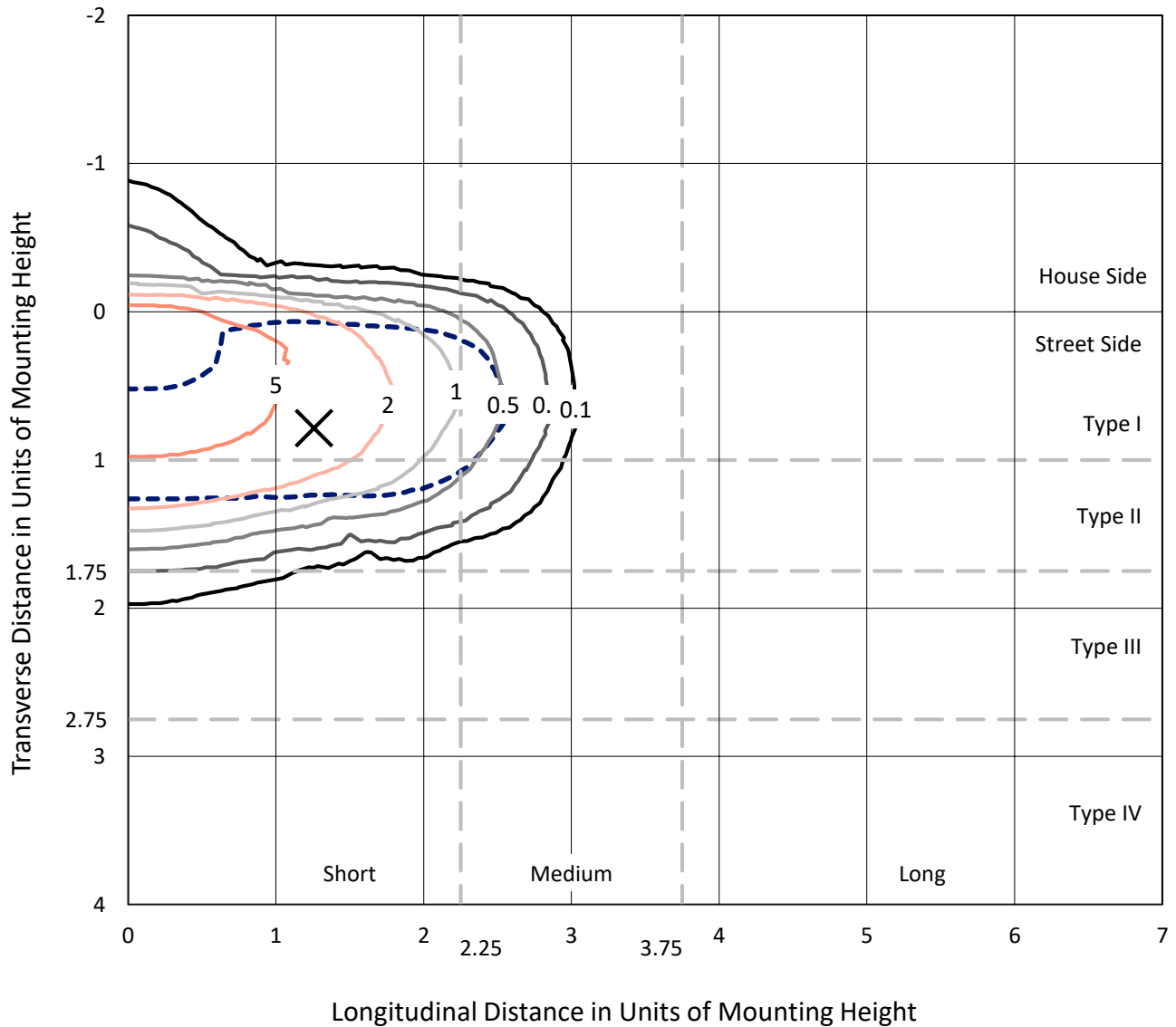


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

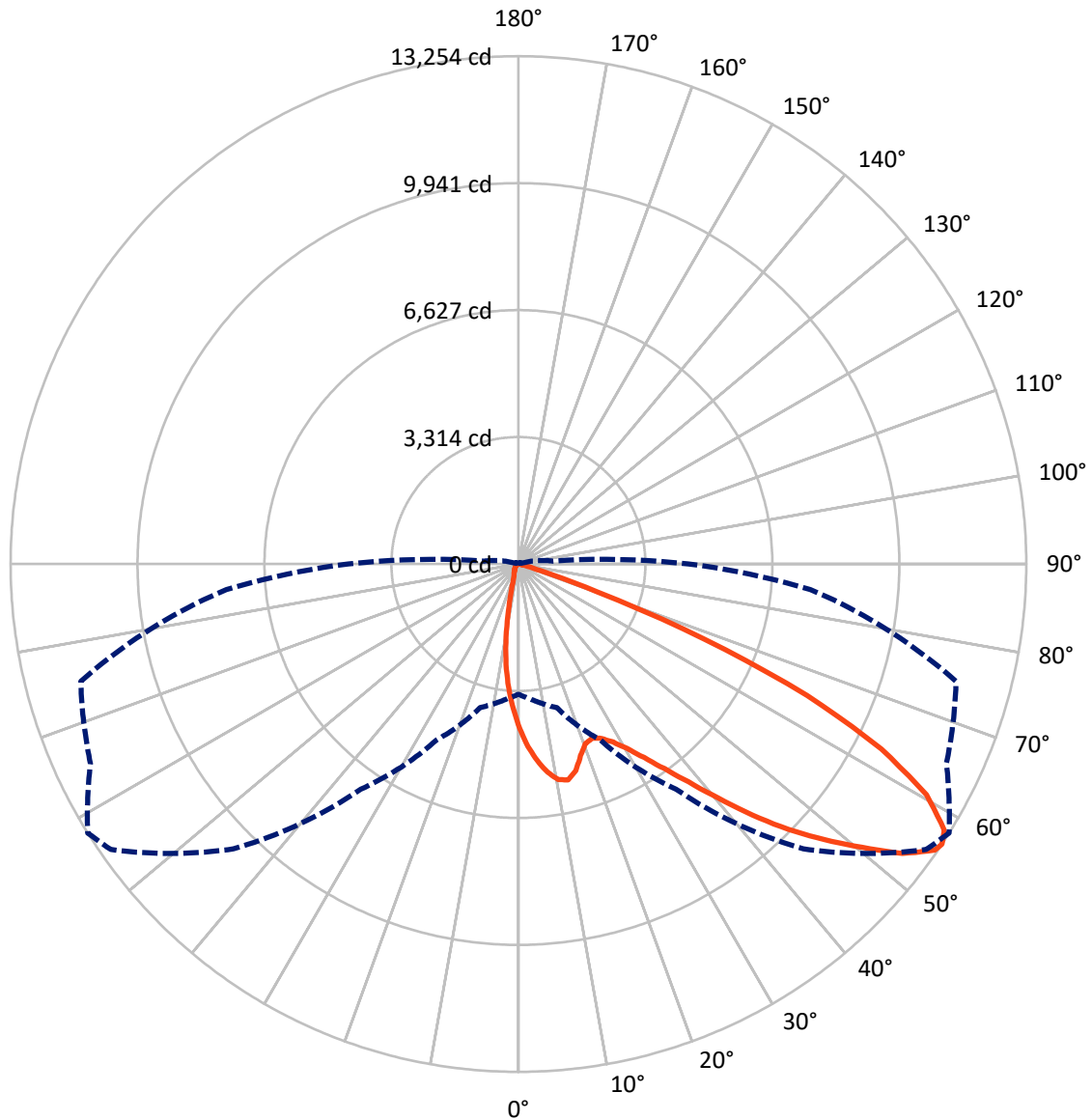


Based on 25 foot mounting height. Maximum calculated value = 8.6 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



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

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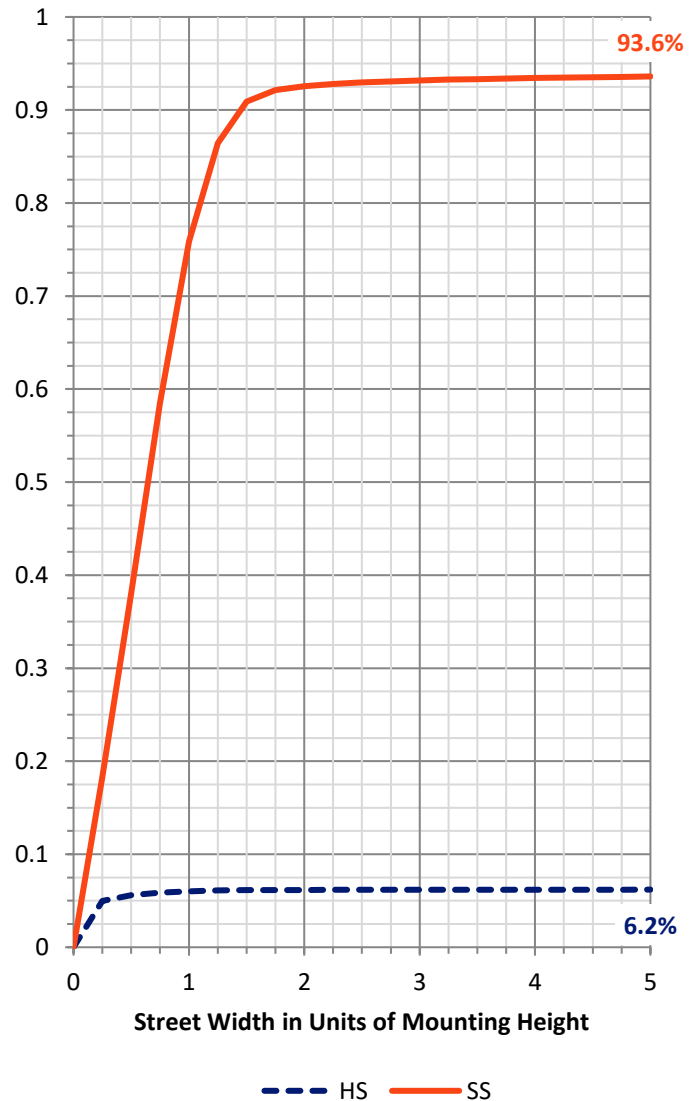
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	949.1	0.0	949.1
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	14255.0	0.0	14255.0
	% Fixture	93.8	0.0	93.8
Total	Lumens	15204.0	0.0	15204.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	367.2	2.4
10°-20°	854.5	5.6
20°-30°	1437.8	9.5
30°-40°	2462.0	16.2
40°-50°	3715.2	24.4
50°-60°	3861.9	25.4
60°-70°	2168.0	14.3
70°-80°	297.1	2.0
80°-90°	40.3	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°	15204.0	100.0
0°-180°	15204.0	100.0



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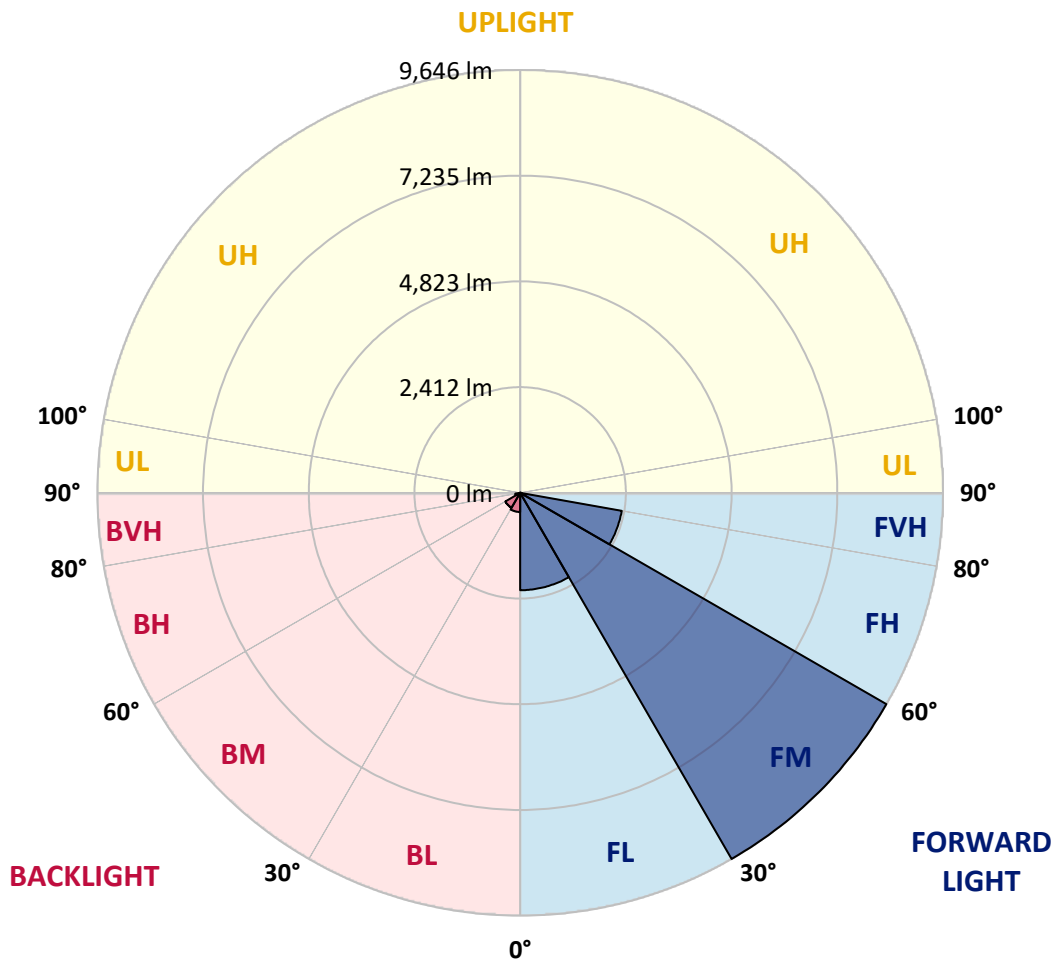
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2221.6	14.6			
FM	(30°-60°)	9646.1	63.4			
FH	(60°-80°)	2352.6	15.5			G2/5000
FVH	(80°-90°)	34.7	0.2			G1/100
BL	(0°-30°)	437.8	2.9	B1/500		
BM	(30°-60°)	393.1	2.6	B1/1000		
BH	(60°-80°)	112.6	0.7	B1/500		G1/500
BVH	(80°-90°)	5.6	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°	4304.7	4304.7	4304.7	4304.7	4304.7	4304.7	4304.7	4304.7	4304.7	4304.7	4304.7
2.5°	5179.3	5148.0	5115.5	5055.2	4999.5	4913.7	4795.4	4766.4	4673.6	4520.5	4377.8
5°	5625.9	5620.1	5598.1	5549.4	5489.1	5384.7	5251.3	5161.9	5018.1	4776.8	4501.9
7.5°	5361.5	5410.2	5490.2	5603.9	5680.5	5670.0	5567.9	5490.2	5347.5	5018.1	4623.7
10°	4519.3	4528.6	4638.8	4877.7	5255.9	5608.5	5741.9	5721.1	5590.0	5229.2	4730.4
12.5°	4222.4	4228.2	4253.7	4330.2	4576.1	5068.0	5672.3	5781.4	5770.9	5431.1	4844.1
15°	4245.6	4249.0	4256.0	4280.4	4350.0	4597.0	5319.7	5596.9	5886.9	5622.5	4955.5
17.5°	4428.8	4426.5	4404.5	4381.3	4403.3	4484.5	4960.1	5252.4	5862.6	5783.7	5047.1
20°	4786.1	4797.7	4723.5	4620.2	4566.9	4570.3	4782.6	5001.9	5725.7	5909.0	5115.5
22.5°	5288.4	5296.5	5174.7	4996.1	4839.5	4760.6	4819.7	4935.7	5567.9	6025.0	5171.2
25°	5888.1	5888.1	5717.6	5463.5	5221.1	5048.3	4997.2	5041.3	5507.6	6156.1	5226.9
27.5°	6535.4	6558.6	6335.8	6002.9	5682.8	5429.9	5269.8	5261.7	5554.0	6320.8	5289.5
30°	7239.5	7260.4	6995.9	6588.7	6209.4	5885.8	5639.9	5586.5	5731.5	6542.3	5381.2
32.5°	7940.1	7957.5	7665.2	7249.9	6808.0	6427.5	6103.9	6019.2	6050.5	6866.0	5515.7
35°	8831.0	8834.5	8464.4	7970.3	7498.2	7051.6	6642.1	6558.6	6523.8	7274.3	5709.5
37.5°	9539.7	9511.9	9277.6	8810.1	8268.4	7802.1	7320.7	7211.6	7128.1	7848.5	6009.9
40°	9706.8	9706.8	9672.0	9531.6	9101.3	8652.3	8186.0	8023.6	7839.2	8524.7	6413.6
42.5°	9271.8	9299.6	9529.3	9834.4	9837.9	9550.2	9094.3	8957.4	8632.6	9295.0	6854.4
45°	8298.5	8306.7	8857.7	9681.3	10240.4	10405.1	10068.7	9879.6	9429.5	10095.4	7258.0
47.5°	7948.2	7973.8	8208.1	9214.9	10270.5	11097.6	11003.6	10743.8	10167.3	10826.2	7635.0
50°	7410.0	7441.3	7727.8	8528.2	9999.1	11541.9	11898.0	11619.6	10838.9	11435.2	7821.8
52.5°	6122.4	6171.1	6576.0	7620.0	9320.5	11560.4	12716.9	12549.9	11526.8	11761.1	7799.8
55°	4213.1	4249.0	4721.1	5948.4	7951.7	10993.2	13069.6	13184.4	12140.4	11834.2	7693.0
56°	3398.8	3533.3	3879.0	5068.0	7172.2	10510.6	12988.4	13254.0	12322.5	11822.6	7646.6
57.5°	2246.9	2272.4	2649.4	3672.5	5759.3	9463.2	12621.8	13105.5	12556.9	11763.4	7613.0
60°	1056.7	1068.3	1204.1	1694.7	3116.9	6896.1	11430.5	12233.2	12642.7	11639.3	7611.8
62.5°	689.0	691.4	707.6	808.5	1274.8	3756.0	9475.9	10631.3	11931.6	11625.4	7589.8
65°	567.2	573.0	553.3	566.1	667.0	1416.3	6683.8	8288.1	10262.4	11298.3	7341.6
67.5°	500.0	501.1	474.4	459.4	488.4	621.8	3367.4	5228.1	7675.6	9600.1	6047.0
70°	455.9	454.7	424.6	389.8	390.9	413.0	1097.3	2171.5	4246.7	5700.2	3471.8
72.5°	404.8	407.2	389.8	341.0	324.8	292.3	413.0	585.8	1445.3	1830.5	915.2
75°	355.0	350.3	332.9	301.6	271.4	196.0	207.6	249.4	377.0	373.5	197.2
77.5°	269.1	264.5	272.6	257.5	212.3	136.9	113.7	129.9	170.5	158.9	80.0
80°	205.3	203.0	185.6	220.4	193.7	103.2	77.7	80.0	92.8	84.7	39.4
82.5°	148.5	147.3	140.4	135.7	123.0	75.4	59.2	62.6	69.6	59.2	29.0
85°	56.8	56.8	110.2	92.8	84.7	51.0	41.8	45.2	53.4	42.9	19.7
87.5°	9.3	9.3	74.2	61.5	38.3	25.5	26.7	29.0	31.3	25.5	15.1
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°	4304.7	4304.7	4304.7	4304.7	4304.7	4304.7	4304.7	4304.7	4304.7	4304.7	4304.7
2.5°	4293.1	4215.4	4044.9	3880.2	3736.3	3578.6	3498.5	3405.7	3370.9	3301.3	3308.3
5°	4337.2	4174.8	3832.6	3471.8	3141.2	2804.8	2565.9	2340.9	2215.6	2091.5	2091.5
7.5°	4382.4	4134.2	3605.2	3028.7	2471.9	1895.4	1487.1	1160.0	977.9	856.1	852.6
10°	4413.8	4082.0	3346.6	2514.9	1693.6	976.7	589.3	464.0	418.8	399.0	397.9
12.5°	4454.4	4029.8	3051.9	1909.3	940.7	464.0	367.7	348.0	339.9	335.2	335.2
15°	4489.2	3955.6	2694.7	1284.1	494.2	348.0	316.7	309.7	308.6	307.4	308.6
17.5°	4497.3	3850.0	2266.6	751.7	358.4	303.9	290.0	284.2	284.2	283.0	283.0
20°	4478.7	3710.8	1793.3	464.0	309.7	279.6	264.5	257.5	256.4	256.4	256.4
22.5°	4440.4	3533.3	1325.9	351.5	281.9	257.5	237.8	230.8	230.8	232.0	233.2
25°	4392.9	3323.4	910.6	302.8	261.0	234.3	214.6	207.6	210.0	212.3	213.4
27.5°	4332.6	3072.8	596.2	262.2	233.2	211.1	193.7	189.1	193.7	198.4	200.7
30°	4272.2	2797.9	403.7	227.4	201.8	185.6	175.2	174.0	181.0	191.4	192.6
32.5°	4232.8	2516.0	305.1	204.2	177.5	163.6	158.9	161.2	171.7	183.3	185.6
35°	4229.3	2241.1	259.8	185.6	161.2	148.5	146.2	153.1	164.7	174.0	176.3
37.5°	4283.8	1983.6	235.5	171.7	148.5	135.7	132.2	145.0	155.4	164.7	167.0
40°	4394.0	1752.7	219.2	158.9	138.0	123.0	120.6	131.1	141.5	152.0	155.4
42.5°	4532.1	1537.0	200.7	146.2	126.4	109.0	106.7	114.8	125.3	140.4	142.7
45°	4651.5	1336.3	181.0	132.2	113.7	94.0	92.8	102.1	110.2	124.1	126.4
47.5°	4752.5	1169.3	162.4	117.2	97.4	83.5	82.4	87.0	91.6	104.4	106.7
50°	4699.1	1027.7	143.8	96.3	78.9	71.9	70.8	70.8	76.6	89.3	91.6
52.5°	4568.0	939.6	126.4	80.0	65.0	61.5	58.0	59.2	65.0	70.8	71.9
55°	4462.5	897.8	111.4	70.8	54.5	51.0	47.6	46.4	47.6	45.2	42.9
56°	4437.0	893.2	107.9	68.4	52.2	47.6	42.9	40.6	39.4	34.8	33.6
57.5°	4425.4	893.2	102.1	63.8	48.7	42.9	37.1	32.5	27.8	24.4	24.4
60°	4416.1	899.0	95.1	55.7	41.8	34.8	26.7	19.7	16.2	16.2	16.2
62.5°	4396.4	896.7	87.0	46.4	36.0	26.7	16.2	12.8	11.6	12.8	13.9
65°	4174.8	832.9	76.6	37.1	27.8	18.6	9.3	9.3	10.4	12.8	13.9
67.5°	3364.0	631.0	62.6	29.0	19.7	13.9	8.1	8.1	10.4	12.8	13.9
70°	1847.9	332.9	53.4	20.9	15.1	11.6	8.1	7.0	10.4	12.8	13.9
72.5°	451.2	139.2	48.7	16.2	13.9	10.4	7.0	7.0	10.4	12.8	13.9
75°	111.4	104.4	39.4	12.8	11.6	9.3	7.0	7.0	10.4	12.8	13.9
77.5°	52.2	138.0	26.7	11.6	10.4	8.1	7.0	7.0	10.4	12.8	12.8
80°	31.3	104.4	16.2	10.4	9.3	8.1	7.0	7.0	10.4	12.8	13.9
82.5°	18.6	30.2	11.6	10.4	9.3	7.0	7.0	7.0	10.4	12.8	13.9
85°	16.2	15.1	11.6	10.4	9.3	8.1	7.0	7.0	11.6	13.9	13.9
87.5°	12.8	11.6	10.4	9.3	9.3	8.1	7.0	7.0	10.4	12.8	13.9
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)