

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: P195512

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-7050-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195512
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-02-D-UNV-AFL-7050-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 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: 8261 lumens
Efficiency: N/A
Efficacy: 97.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 85
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

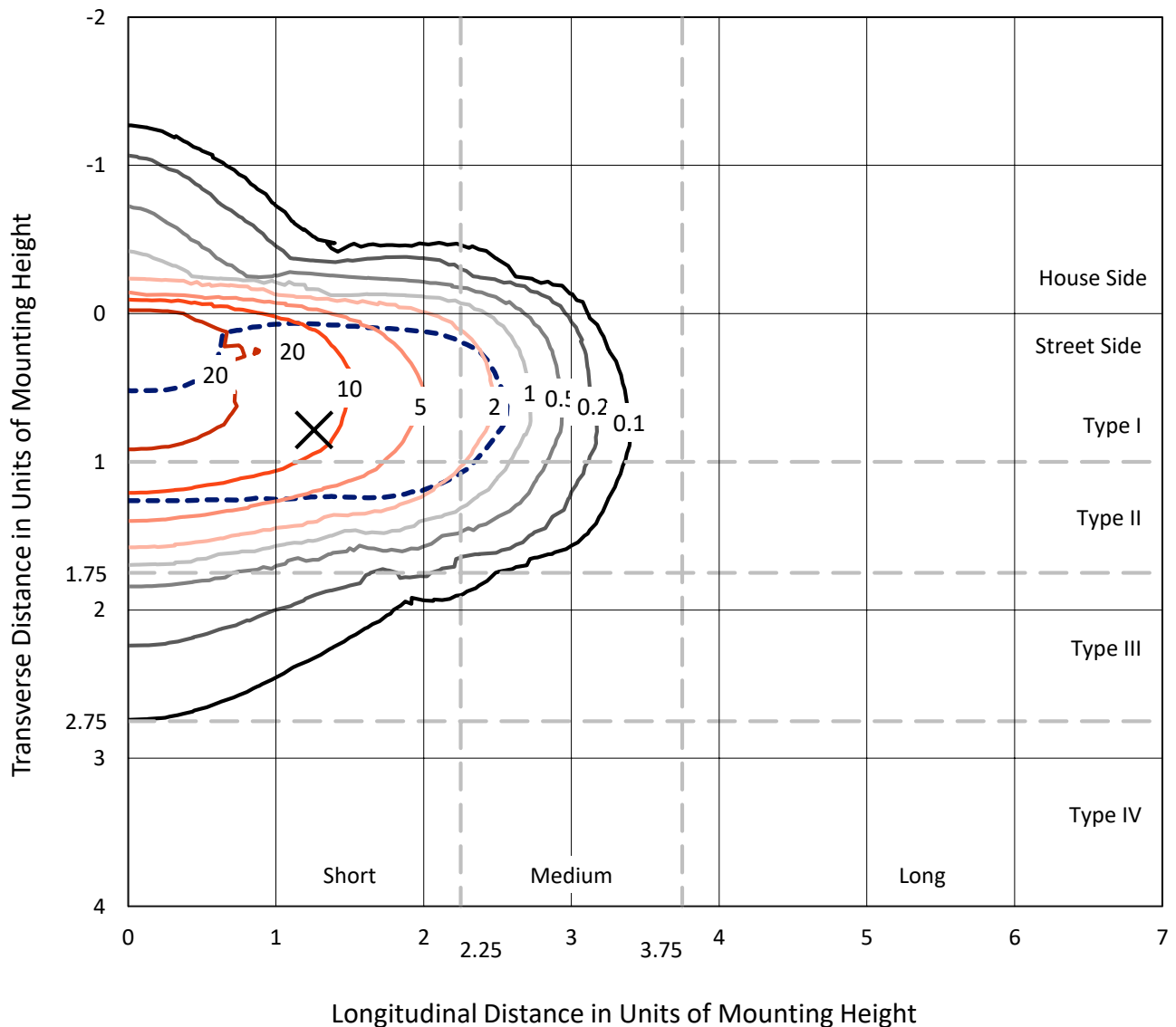


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

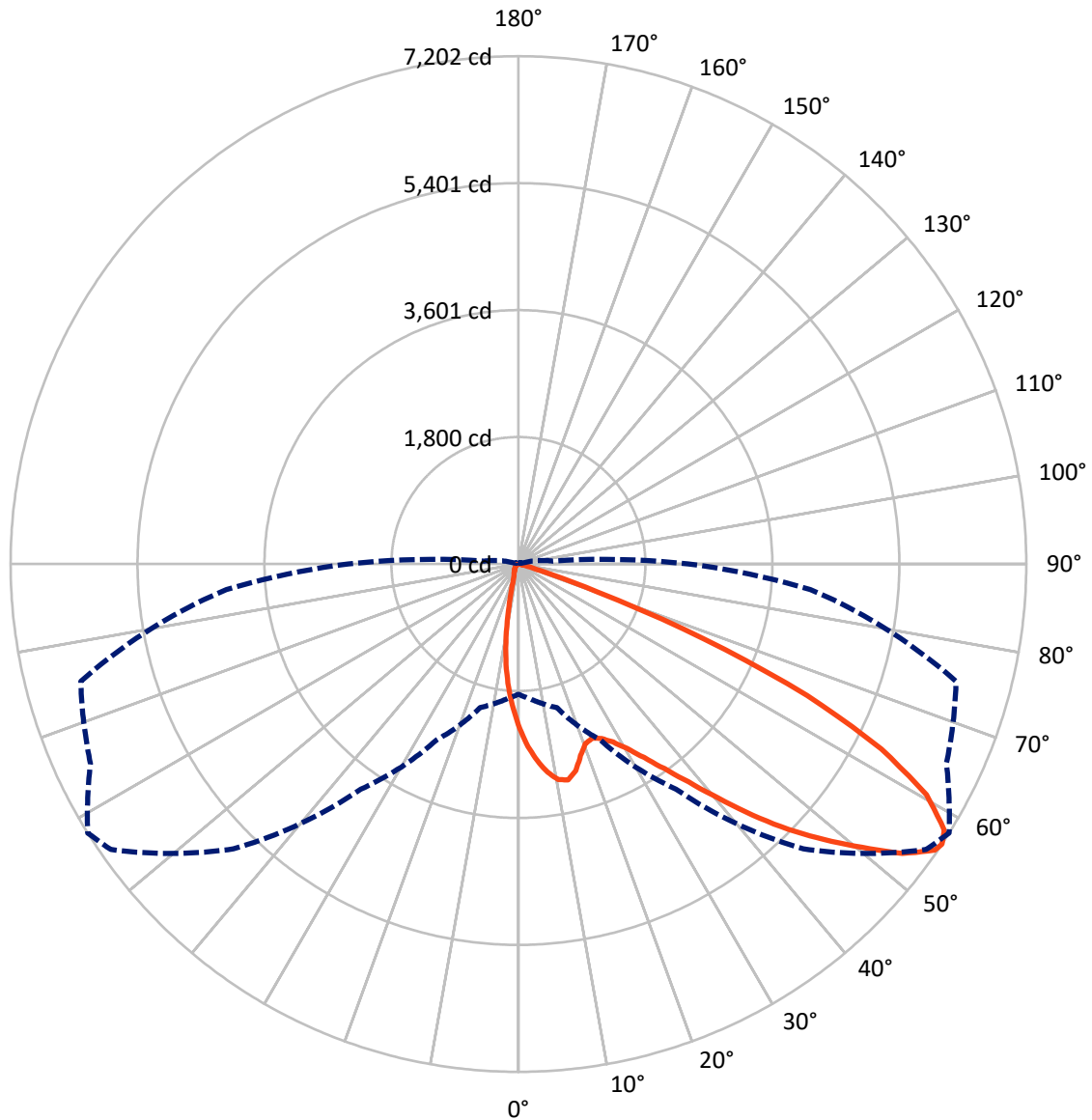


Based on 10 foot mounting height. Maximum calculated value = 29.1 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



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

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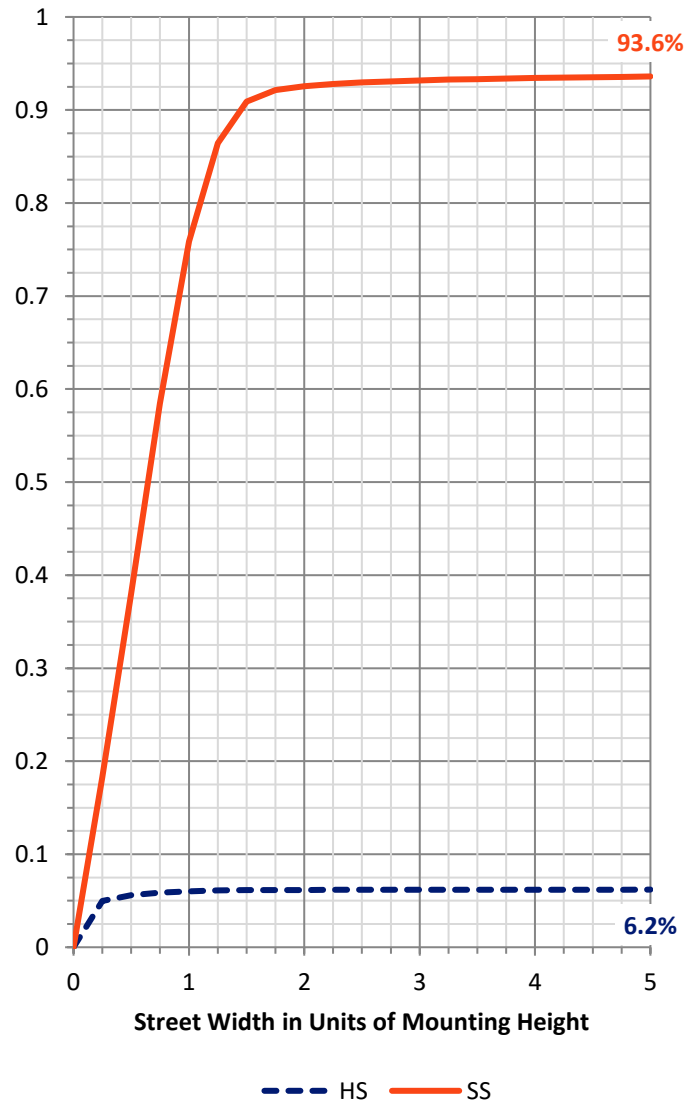
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	515.7	0.0	515.7
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	7745.3	0.0	7745.3
	% Fixture	93.8	0.0	93.8
Total	Lumens	8261.0	0.0	8261.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.5	2.4
10°-20°	464.3	5.6
20°-30°	781.2	9.5
30°-40°	1337.7	16.2
40°-50°	2018.7	24.4
50°-60°	2098.3	25.4
60°-70°	1178.0	14.3
70°-80°	161.4	2.0
80°-90°	21.9	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°	8261.0	100.0
0°-180°	8261.0	100.0



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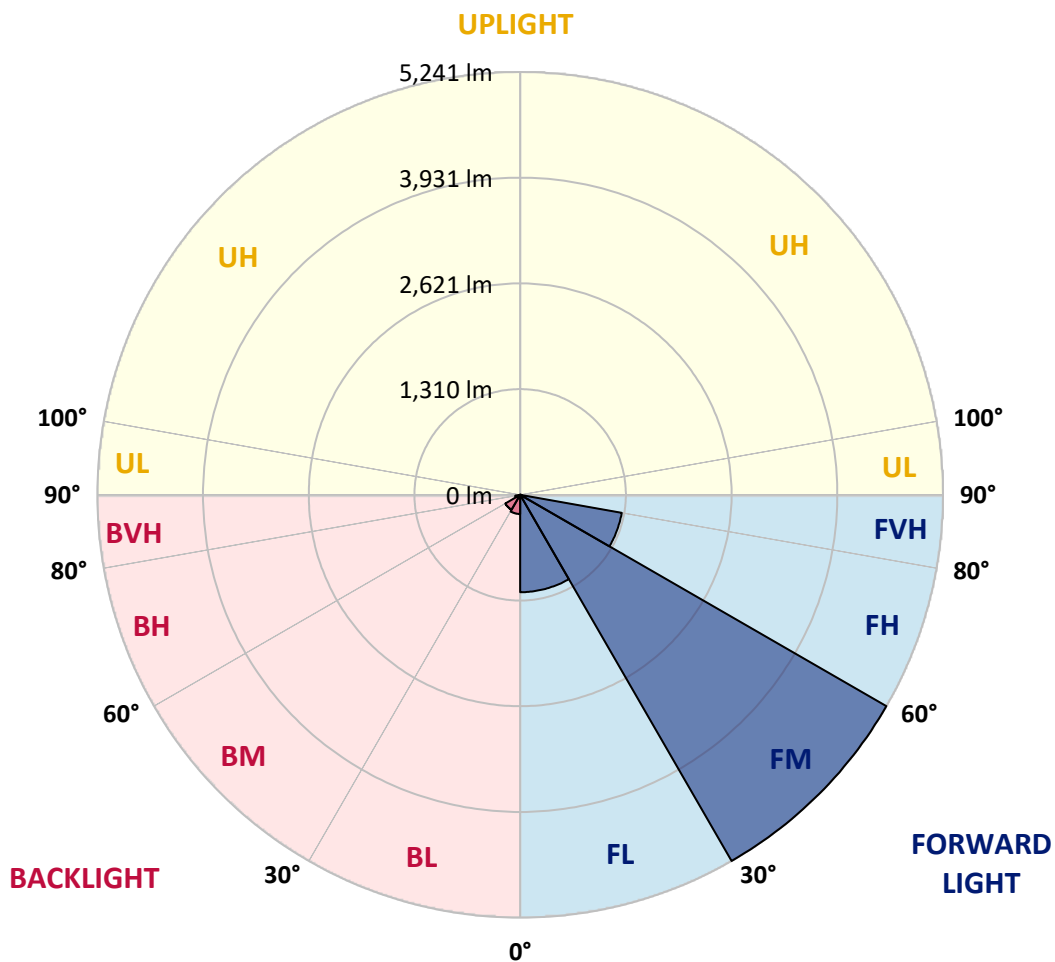
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1207.1	14.6			
FM	(30°-60°)	5241.1	63.4			
FH	(60°-80°)	1278.2	15.5			G1/1800
FVH	(80°-90°)	18.9	0.2			G1/100
BL	(0°-30°)	237.9	2.9	B1/500		
BM	(30°-60°)	213.6	2.6	B0/220		
BH	(60°-80°)	61.2	0.7	B0/110		G0/110
BVH	(80°-90°)	3.0	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-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	2338.9	2338.9	2338.9	2338.9	2338.9	2338.9	2338.9	2338.9	2338.9	2338.9	2338.9
2.5°	2814.2	2797.1	2779.5	2746.7	2716.5	2669.8	2605.5	2589.8	2539.4	2456.2	2378.6
5°	3056.8	3053.7	3041.7	3015.2	2982.4	2925.7	2853.2	2804.7	2726.6	2595.5	2446.1
7.5°	2913.1	2939.6	2983.1	3044.8	3086.4	3080.8	3025.3	2983.1	2905.6	2726.6	2512.3
10°	2455.5	2460.6	2520.5	2650.3	2855.8	3047.4	3119.8	3108.5	3037.3	2841.3	2570.2
12.5°	2294.2	2297.3	2311.2	2352.8	2486.4	2753.7	3082.0	3141.3	3135.6	2950.9	2632.0
15°	2306.8	2308.7	2312.5	2325.7	2363.5	2497.8	2890.4	3041.1	3198.6	3054.9	2692.5
17.5°	2406.4	2405.1	2393.1	2380.5	2392.5	2436.6	2695.0	2853.9	3185.4	3142.5	2742.3
20°	2600.5	2606.8	2566.5	2510.4	2481.4	2483.3	2598.6	2717.7	3111.0	3210.6	2779.5
22.5°	2873.4	2877.8	2811.6	2714.6	2629.5	2586.6	2618.8	2681.8	3025.3	3273.6	2809.8
25°	3199.3	3199.3	3106.6	2968.6	2836.9	2742.9	2715.2	2739.2	2992.5	3344.9	2840.0
27.5°	3551.0	3563.6	3442.5	3261.7	3087.7	2950.3	2863.3	2858.9	3017.7	3434.4	2874.0
30°	3933.5	3944.9	3801.2	3579.9	3373.8	3198.0	3064.4	3035.4	3114.2	3554.7	2923.8
32.5°	4314.2	4323.7	4164.8	3939.2	3699.1	3492.3	3316.5	3270.5	3287.5	3730.6	2996.9
35°	4798.3	4800.2	4599.1	4330.6	4074.1	3831.4	3608.9	3563.6	3544.6	3952.4	3102.2
37.5°	5183.4	5168.2	5040.9	4786.9	4492.6	4239.2	3977.6	3918.4	3873.0	4264.4	3265.4
40°	5274.1	5274.1	5255.2	5178.9	4945.1	4701.2	4447.8	4359.6	4259.4	4631.9	3484.8
42.5°	5037.8	5052.9	5177.7	5343.4	5345.3	5189.0	4941.3	4867.0	4690.5	5050.4	3724.3
45°	4509.0	4513.4	4812.8	5260.2	5564.0	5653.5	5470.8	5368.0	5123.5	5485.3	3943.6
47.5°	4318.6	4332.5	4459.8	5006.9	5580.4	6029.8	5978.8	5837.6	5524.3	5882.3	4148.4
50°	4026.2	4043.2	4198.9	4633.8	5432.9	6271.2	6464.7	6313.4	5889.3	6213.2	4249.9
52.5°	3326.6	3353.0	3573.0	4140.3	5064.2	6281.3	6909.7	6818.9	6263.0	6390.3	4237.9
55°	2289.1	2308.7	2565.2	3232.0	4320.5	5973.1	7101.3	7163.7	6596.4	6430.0	4180.0
56°	1846.7	1919.8	2107.6	2753.7	3897.0	5710.9	7057.2	7201.5	6695.4	6423.7	4154.8
57.5°	1220.8	1234.7	1439.5	1995.4	3129.3	5141.8	6858.0	7120.8	6822.7	6391.6	4136.5
60°	574.2	580.5	654.2	920.8	1693.5	3747.0	6210.7	6646.8	6869.3	6324.1	4135.8
62.5°	374.4	375.6	384.5	439.3	692.7	2040.8	5148.7	5776.4	6483.0	6316.6	4123.9
65°	308.2	311.4	300.6	307.6	362.4	769.6	3631.6	4503.3	5576.0	6138.8	3989.0
67.5°	271.6	272.3	257.8	249.6	265.3	337.8	1829.7	2840.6	4170.5	5216.1	3285.6
70°	247.7	247.1	230.7	211.8	212.4	224.4	596.2	1179.9	2307.4	3097.2	1886.4
72.5°	220.0	221.2	211.8	185.3	176.5	158.8	224.4	318.3	785.3	994.6	497.3
75°	192.9	190.3	180.9	163.9	147.5	106.5	112.8	135.5	204.8	202.9	107.1
77.5°	146.2	143.7	148.1	139.9	115.3	74.4	61.8	70.6	92.6	86.3	43.5
80°	111.6	110.3	100.8	119.8	105.3	56.1	42.2	43.5	50.4	46.0	21.4
82.5°	80.7	80.0	76.3	73.7	66.8	41.0	32.1	34.0	37.8	32.1	15.8
85°	30.9	30.9	59.9	50.4	46.0	27.7	22.7	24.6	29.0	23.3	10.7
87.5°	5.0	5.0	40.3	33.4	20.8	13.9	14.5	15.8	17.0	13.9	8.2
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°	2338.9	2338.9	2338.9	2338.9	2338.9	2338.9	2338.9	2338.9	2338.9	2338.9	2338.9
2.5°	2332.6	2290.4	2197.8	2108.3	2030.1	1944.4	1900.9	1850.5	1831.6	1793.8	1797.5
5°	2356.6	2268.3	2082.4	1886.4	1706.8	1524.0	1394.2	1271.9	1203.8	1136.4	1136.4
7.5°	2381.2	2246.3	1958.9	1645.6	1343.1	1029.9	808.0	630.3	531.3	465.1	463.2
10°	2398.2	2217.9	1818.3	1366.4	920.2	530.7	320.2	252.1	227.5	216.8	216.2
12.5°	2420.2	2189.6	1658.2	1037.4	511.2	252.1	199.8	189.1	184.7	182.1	182.1
15°	2439.2	2149.2	1464.1	697.7	268.5	189.1	172.1	168.3	167.7	167.0	167.7
17.5°	2443.6	2091.9	1231.6	408.4	194.8	165.1	157.6	154.4	154.4	153.8	153.8
20°	2433.5	2016.2	974.4	252.1	168.3	151.9	143.7	139.9	139.3	139.3	139.3
22.5°	2412.7	1919.8	720.4	191.0	153.2	139.9	129.2	125.4	125.4	126.1	126.7
25°	2386.8	1805.7	494.8	164.5	141.8	127.3	116.6	112.8	114.1	115.3	116.0
27.5°	2354.1	1669.6	324.0	142.4	126.7	114.7	105.3	102.7	105.3	107.8	109.0
30°	2321.3	1520.2	219.3	123.5	109.7	100.8	95.2	94.5	98.3	104.0	104.6
32.5°	2299.9	1367.1	165.8	110.9	96.4	88.9	86.3	87.6	93.3	99.6	100.8
35°	2298.0	1217.7	141.2	100.8	87.6	80.7	79.4	83.2	89.5	94.5	95.8
37.5°	2327.6	1077.8	127.9	93.3	80.7	73.7	71.9	78.8	84.5	89.5	90.8
40°	2387.5	952.3	119.1	86.3	75.0	66.8	65.5	71.2	76.9	82.6	84.5
42.5°	2462.5	835.1	109.0	79.4	68.7	59.2	58.0	62.4	68.1	76.3	77.5
45°	2527.4	726.1	98.3	71.9	61.8	51.1	50.4	55.5	59.9	67.4	68.7
47.5°	2582.2	635.3	88.2	63.7	52.9	45.4	44.7	47.3	49.8	56.7	58.0
50°	2553.2	558.4	78.2	52.3	42.9	39.1	38.4	38.4	41.6	48.5	49.8
52.5°	2482.0	510.5	68.7	43.5	35.3	33.4	31.5	32.1	35.3	38.4	39.1
55°	2424.7	487.8	60.5	38.4	29.6	27.7	25.8	25.2	25.8	24.6	23.3
56°	2410.8	485.3	58.6	37.2	28.4	25.8	23.3	22.1	21.4	18.9	18.3
57.5°	2404.5	485.3	55.5	34.7	26.5	23.3	20.2	17.6	15.1	13.2	13.2
60°	2399.4	488.5	51.7	30.3	22.7	18.9	14.5	10.7	8.8	8.8	8.8
62.5°	2388.7	487.2	47.3	25.2	19.5	14.5	8.8	6.9	6.3	6.9	7.6
65°	2268.3	452.5	41.6	20.2	15.1	10.1	5.0	5.0	5.7	6.9	7.6
67.5°	1827.8	342.9	34.0	15.8	10.7	7.6	4.4	4.4	5.7	6.9	7.6
70°	1004.0	180.9	29.0	11.3	8.2	6.3	4.4	3.8	5.7	6.9	7.6
72.5°	245.2	75.6	26.5	8.8	7.6	5.7	3.8	3.8	5.7	6.9	7.6
75°	60.5	56.7	21.4	6.9	6.3	5.0	3.8	3.8	5.7	6.9	7.6
77.5°	28.4	75.0	14.5	6.3	5.7	4.4	3.8	3.8	5.7	6.9	6.9
80°	17.0	56.7	8.8	5.7	5.0	4.4	3.8	3.8	5.7	6.9	7.6
82.5°	10.1	16.4	6.3	5.7	5.0	3.8	3.8	3.8	5.7	6.9	7.6
85°	8.8	8.2	6.3	5.7	5.0	4.4	3.8	3.8	6.3	7.6	7.6
87.5°	6.9	6.3	5.7	5.0	5.0	4.4	3.8	3.8	5.7	6.9	7.6
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)