

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: P196988

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196988
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
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-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11172 lumens
Efficiency: N/A
Efficacy: 86.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G1

Input Watts (W): 129
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

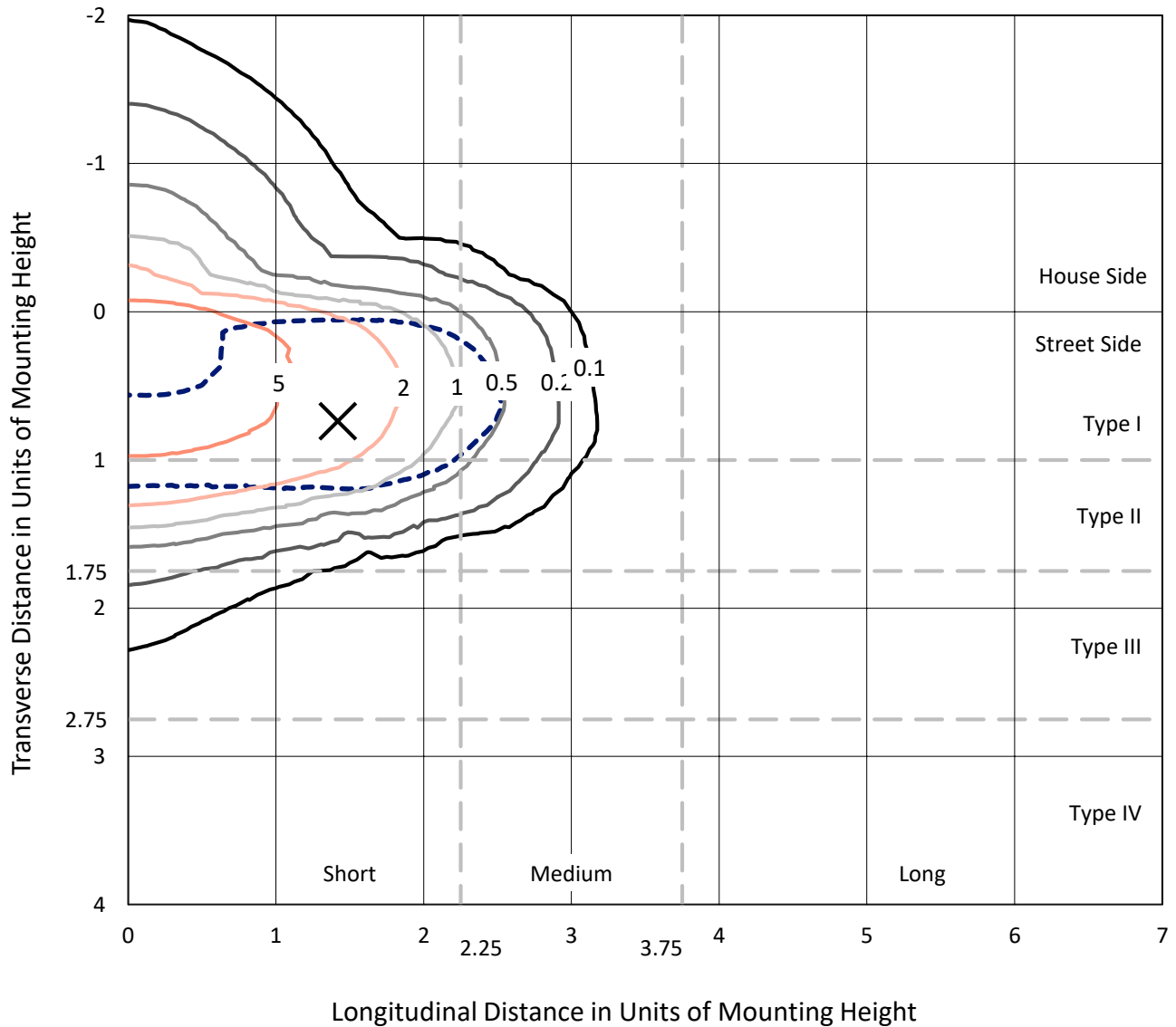


REPORT NUMBER: P196988

CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-8030-1200

Iso-Footcandle Lines of Horizontal Illumination

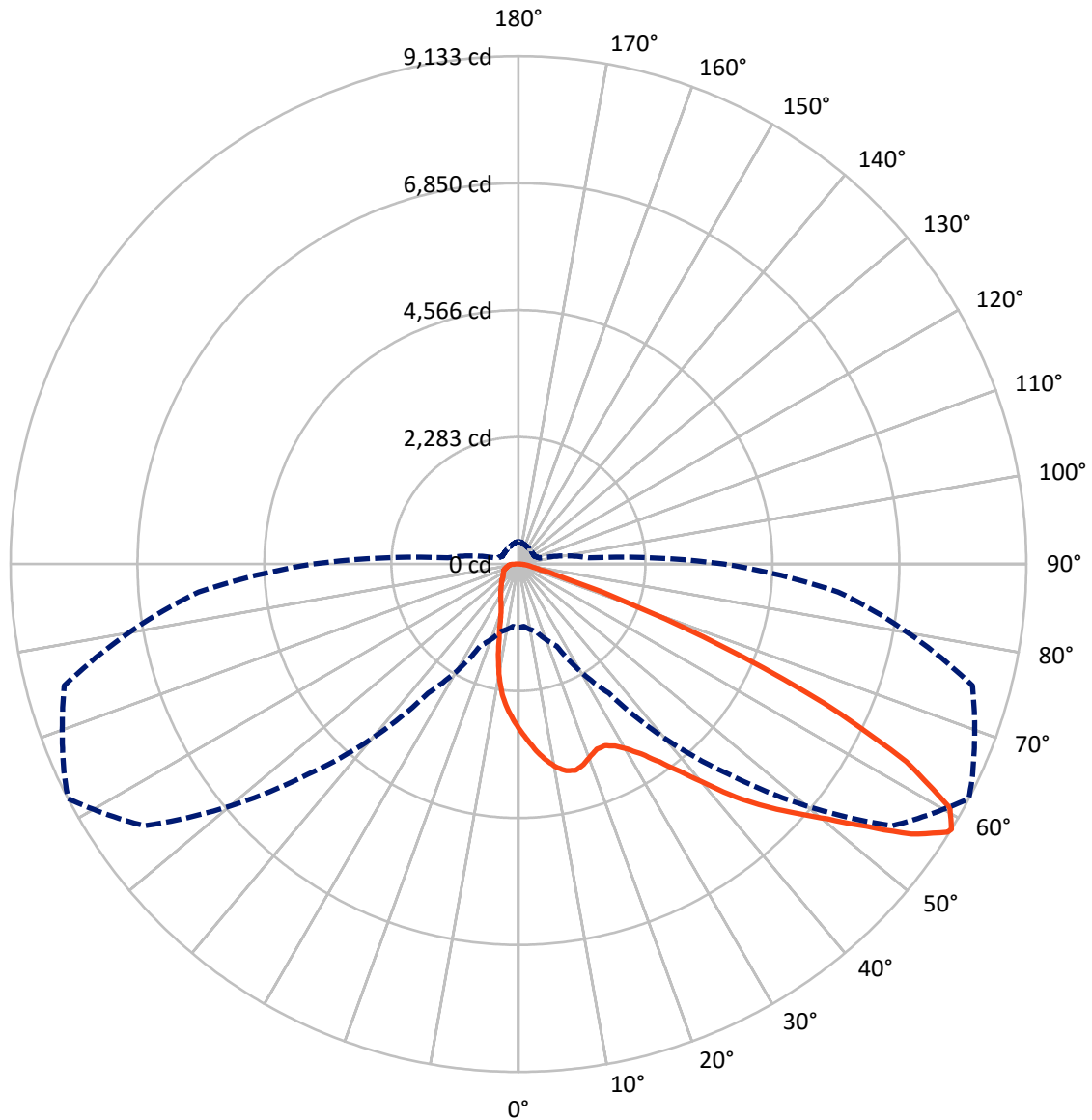
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.7 fc
 Type II - Short - Full Cutoff

REPORT NUMBER: P196988
CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-8030-1200

Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

REPORT NUMBER: P196988

CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-8030-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1715.3	0.0	1715.3
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	9456.7	0.0	9456.7
	% Fixture	84.6	0.0	84.6
Total	Lumens	11172.0	0.0	11172.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	266.6	2.4
10°-20°	672.9	6.0
20°-30°	1090.5	9.8
30°-40°	1741.0	15.6
40°-50°	2532.4	22.7
50°-60°	2649.9	23.7
60°-70°	1615.5	14.5
70°-80°	451.8	4.0
80°-90°	151.4	1.4
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°	11172.0	100.0
0°-180°	11172.0	100.0



REPORT NUMBER: P196988

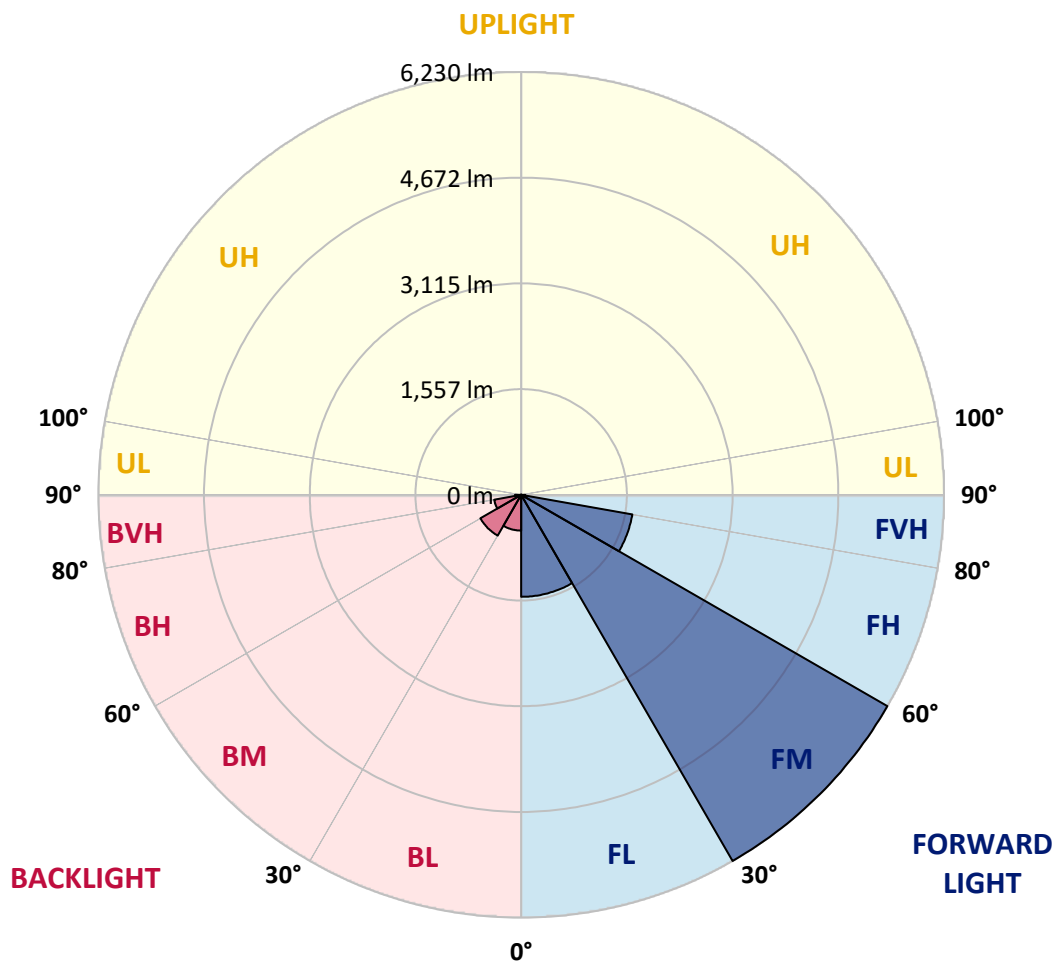
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1502.7	13.5			
FM	(30°-60°)	6229.6	55.8			
FH	(60°-80°)	1663.4	14.9			G1/1800
FVH	(80°-90°)	60.9	0.5			G1/100
BL	(0°-30°)	527.3	4.7	B2/1000		
BM	(30°-60°)	693.7	6.2	B1/1000		
BH	(60°-80°)	403.8	3.6	B1/500		G1/500
BVH	(80°-90°)	90.5	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G1

Type II Short





REPORT NUMBER: P196988

CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-8030-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	2982.9	2982.9	2982.9	2982.9	2982.9	2982.9	2982.9	2982.9	2982.9	2982.9	2982.9
2.5°	3385.7	3383.6	3355.0	3336.2	3313.8	3262.1	3210.5	3172.1	3152.5	3077.8	3005.2
5°	3665.7	3657.3	3641.3	3621.0	3591.7	3526.8	3445.1	3374.6	3346.6	3214.0	3080.6
7.5°	3517.7	3531.0	3580.5	3636.4	3695.0	3699.2	3641.3	3557.5	3526.8	3349.4	3153.9
10°	3107.8	3102.2	3164.4	3273.3	3466.7	3658.0	3753.7	3712.5	3680.4	3477.9	3227.2
12.5°	2983.5	2982.2	2992.6	3020.6	3142.0	3404.6	3725.1	3814.4	3803.3	3614.1	3305.4
15°	3021.3	3022.6	3022.0	3025.4	3059.0	3183.9	3565.2	3848.7	3883.6	3748.8	3385.0
17.5°	3142.0	3137.2	3121.8	3105.0	3109.9	3154.6	3392.7	3790.0	3894.7	3868.9	3452.1
20°	3328.5	3328.5	3287.3	3240.5	3209.8	3219.6	3320.8	3689.5	3843.1	3970.9	3502.3
22.5°	3562.4	3565.9	3505.1	3419.9	3350.1	3323.6	3362.0	3614.8	3780.2	4065.1	3547.0
25°	3852.8	3852.2	3763.5	3641.3	3531.0	3467.4	3466.7	3618.2	3760.7	4175.4	3593.8
27.5°	4212.4	4179.6	4076.3	3902.4	3746.7	3649.7	3605.7	3706.2	3801.9	4310.9	3656.6
30°	4618.1	4584.6	4449.1	4225.7	4014.8	3873.1	3800.5	3858.4	3927.6	4483.4	3751.6
32.5°	5019.6	5027.3	4868.1	4616.0	4345.1	4145.4	4037.9	4073.5	4121.7	4694.2	3880.1
35°	5607.5	5606.8	5398.7	5083.8	4761.9	4485.4	4349.3	4368.1	4412.1	4991.7	4060.2
37.5°	6046.0	6039.0	5905.0	5626.4	5264.0	4932.3	4735.4	4738.2	4775.9	5365.2	4297.6
40°	6090.7	6089.3	6088.6	6048.8	5800.9	5488.1	5241.6	5190.7	5206.0	5761.8	4549.7
42.5°	5749.2	5800.2	5946.8	6171.7	6240.8	6076.7	5843.5	5729.7	5696.2	6217.1	4816.4
45°	5262.6	5288.4	5545.4	6050.9	6462.1	6629.7	6454.5	6214.3	6157.0	6659.7	5033.6
47.5°	5036.4	5025.2	5173.9	5724.8	6440.5	7069.6	7082.2	6688.4	6591.3	7041.7	5218.6
50°	4551.1	4536.4	4724.2	5245.1	6204.5	7288.2	7726.6	7205.1	7025.6	7404.8	5386.2
52.5°	3584.0	3570.1	3822.1	4493.1	5676.6	7206.5	8269.9	7839.1	7533.2	7754.6	5542.6
55°	2332.1	2333.5	2573.7	3265.6	4593.7	6730.3	8524.7	8571.5	8228.7	8104.4	5669.0
57.5°	1284.1	1272.2	1443.2	1868.5	3160.2	5648.7	8312.5	9099.4	8920.6	8404.6	5760.4
58°	1141.6	1127.6	1259.6	1626.2	2833.4	5343.6	8205.6	9132.9	9009.3	8454.2	5773.7
60°	813.4	789.7	769.5	916.8	1632.5	3852.8	7493.4	8915.7	9035.1	8553.4	5761.1
62.5°	685.7	658.4	585.8	580.2	768.8	1884.5	5925.9	7830.0	8164.4	8325.0	5558.6
65°	636.8	609.6	513.9	479.7	521.6	813.4	3664.3	6046.0	6492.9	7531.1	5048.9
67.5°	601.9	569.8	467.1	422.4	430.8	486.7	1555.0	3954.1	4472.2	5872.8	4050.4
70°	570.5	534.8	430.1	378.4	371.5	370.1	607.5	2064.7	2563.9	3843.1	2713.3
72.5°	534.8	499.9	397.3	342.1	326.8	300.2	365.2	853.2	1169.5	1883.8	1243.6
75°	483.2	454.5	361.0	312.1	285.6	243.7	269.5	409.2	504.1	721.3	577.4
77.5°	425.2	402.2	324.0	287.0	251.4	199.0	206.0	277.2	311.4	406.4	334.5
80°	300.9	309.3	282.8	252.8	221.3	160.6	158.5	203.2	223.4	273.0	224.8
82.5°	207.4	213.7	230.4	199.7	178.7	125.0	116.6	141.0	151.5	164.8	108.9
85°	148.0	143.8	159.9	143.1	131.3	79.6	74.7	89.4	95.7	100.5	52.4
87.5°	90.1	89.4	92.2	74.0	68.4	40.5	37.0	42.6	45.4	44.0	25.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196988

CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-8030-1200

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2982.9	2982.9	2982.9	2982.9	2982.9	2982.9	2982.9	2982.9	2982.9	2982.9	2982.9
2.5°	2978.0	2943.7	2869.0	2809.0	2744.1	2694.5	2644.9	2617.0	2586.3	2568.8	2566.7
5°	3010.8	2941.0	2781.8	2633.7	2481.5	2344.7	2210.6	2111.5	2030.5	1984.4	1981.6
7.5°	3047.1	2937.5	2691.7	2435.4	2164.5	1895.0	1656.9	1488.6	1380.4	1330.1	1326.6
10°	3075.0	2922.8	2582.1	2183.4	1754.0	1397.9	1181.4	1082.3	1049.4	1041.1	1039.7
12.5°	3108.5	2912.3	2443.8	1860.1	1340.6	1064.1	998.5	992.2	999.2	1003.4	1004.1
15°	3140.0	2892.1	2257.4	1501.9	1049.4	951.0	952.4	965.7	979.6	985.9	986.6
17.5°	3154.6	2842.5	2012.3	1183.5	918.2	900.0	916.1	933.5	946.1	951.0	951.0
20°	3154.6	2762.9	1728.1	958.7	849.7	853.2	872.8	886.1	888.9	884.7	882.6
22.5°	3141.3	2664.5	1451.6	836.5	793.9	807.2	822.5	813.4	780.6	755.5	750.6
25°	3129.5	2547.9	1185.6	761.8	745.0	762.5	756.2	694.0	643.8	617.9	613.7
27.5°	3109.9	2406.8	963.6	700.3	697.5	711.5	649.4	589.3	564.2	550.2	547.4
30°	3105.0	2253.9	806.5	645.9	650.8	631.2	560.0	540.4	534.8	527.2	523.7
32.5°	3121.1	2101.0	708.0	601.2	606.1	541.8	514.6	517.4	516.7	506.9	503.4
35°	3165.1	1952.3	645.2	560.7	546.7	485.3	488.8	497.1	497.1	485.3	481.1
37.5°	3241.9	1814.0	605.4	526.5	478.3	455.9	465.0	476.2	476.2	467.8	464.3
40°	3323.6	1679.2	575.3	499.2	435.0	435.7	444.8	453.2	456.6	458.0	455.2
42.5°	3397.6	1539.6	543.2	469.9	415.4	420.3	424.5	430.8	445.5	455.2	453.9
45°	3440.9	1399.3	508.3	433.6	402.2	404.3	402.9	414.1	431.5	446.2	446.2
47.5°	3480.7	1284.1	479.7	397.3	388.9	388.9	384.7	395.9	412.0	429.4	430.8
50°	3518.4	1209.3	459.4	369.4	372.2	370.1	368.7	379.1	400.8	421.7	425.2
52.5°	3556.8	1184.2	441.3	349.1	354.7	351.9	353.3	368.0	392.4	414.1	417.5
55°	3610.6	1200.3	422.4	335.2	337.9	337.2	342.8	359.6	381.2	402.9	404.3
57.5°	3676.9	1258.9	406.4	324.7	321.9	326.1	335.2	351.2	372.2	398.0	400.1
58°	3690.2	1272.9	403.6	321.9	318.4	324.7	333.8	349.1	370.8	398.0	400.1
60°	3710.4	1322.5	396.6	316.3	306.5	317.7	328.9	344.2	368.0	401.5	405.7
62.5°	3612.7	1332.2	394.5	310.0	294.0	307.9	321.2	338.6	365.2	413.4	422.4
65°	3274.0	1231.7	379.8	299.5	283.5	300.2	314.2	334.5	373.6	449.0	453.2
67.5°	2628.1	1022.9	344.2	283.5	271.6	291.2	308.6	334.5	377.0	454.5	457.3
70°	1807.0	768.8	299.5	266.0	257.6	280.0	306.5	342.1	365.2	430.1	421.7
72.5°	944.0	534.8	262.5	245.8	240.9	270.2	326.8	334.5	351.2	401.5	393.1
75°	475.5	363.8	231.1	222.7	222.0	266.7	365.9	321.9	336.5	377.7	395.9
77.5°	280.7	284.9	206.0	201.1	204.6	260.4	366.6	309.3	319.8	347.7	367.3
80°	192.0	235.3	186.4	185.0	187.8	239.5	337.9	294.0	300.2	328.9	349.8
82.5°	108.2	129.9	163.4	172.5	171.1	196.2	291.9	267.4	275.1	388.9	411.3
85°	52.4	78.2	136.9	161.3	145.9	130.6	237.4	237.4	239.5	278.6	282.1
87.5°	19.6	34.9	92.2	127.8	101.9	78.2	161.3	168.3	187.1	192.7	196.9
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)