

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: P196508

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196508
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-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 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: 13241.1 lumens
Efficiency: N/A
Efficacy: 102.6 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 - G2

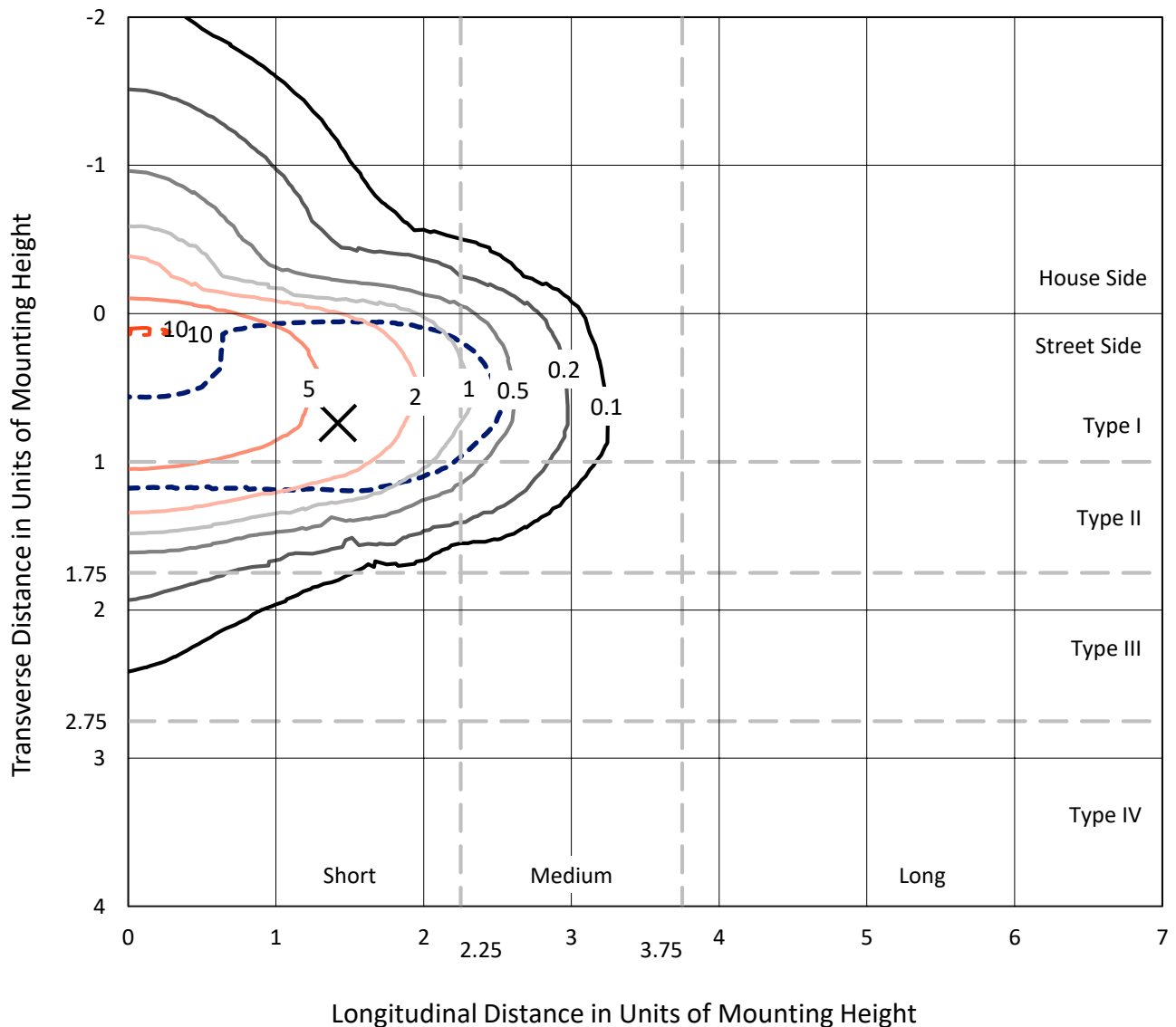
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

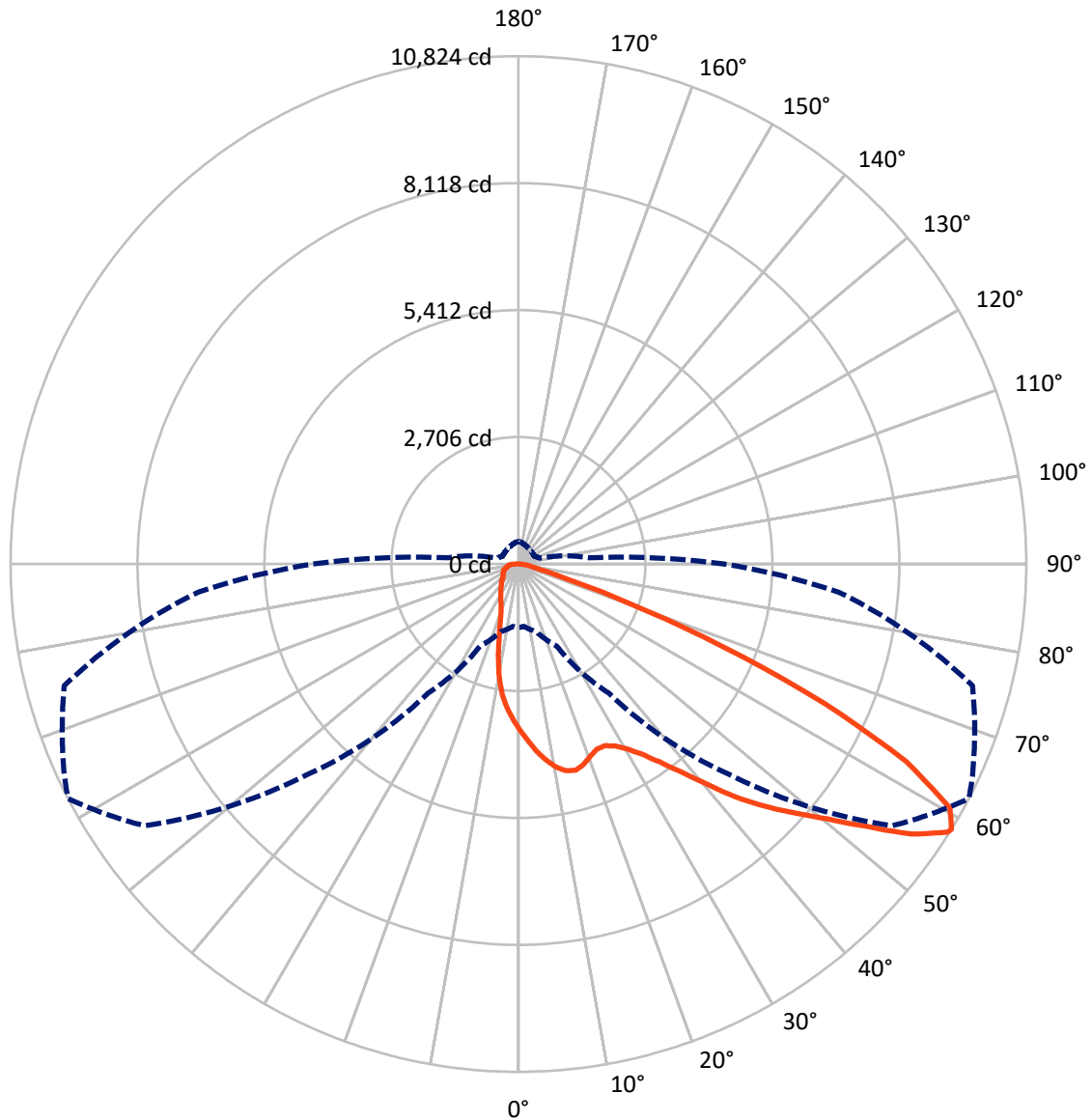
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 10.3 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2033.0	0.0	2033.0
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	11208.1	0.0	11208.1
	% Fixture	84.6	0.0	84.6
Total	Lumens	13241.1	0.0	13241.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	316.0	2.4
10°-20°	797.5	6.0
20°-30°	1292.4	9.8
30°-40°	2063.5	15.6
40°-50°	3001.4	22.7
50°-60°	3140.7	23.7
60°-70°	1914.7	14.5
70°-80°	535.4	4.0
80°-90°	179.5	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°	13241.1	100.0
0°-180°	13241.1	100.0



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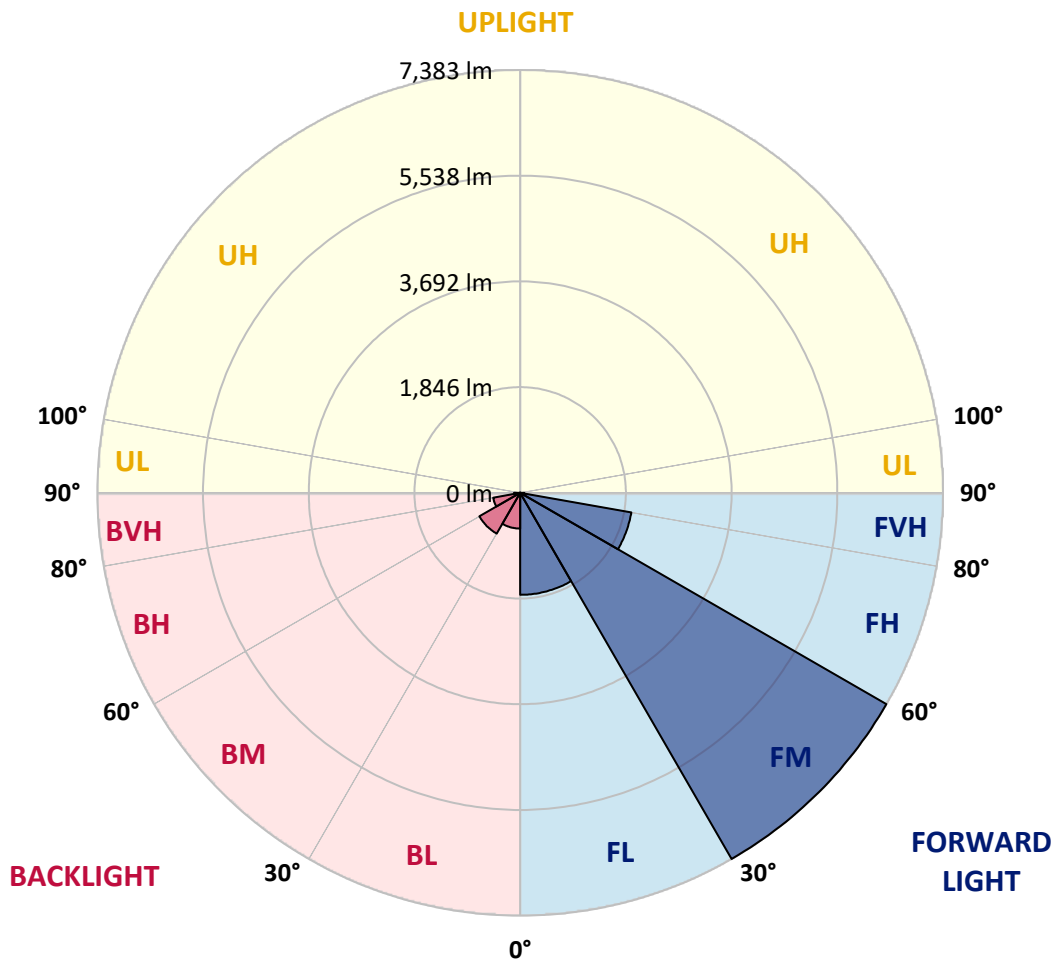
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1781.0	13.5			
FM	(30°-60°)	7383.4	55.8			
FH	(60°-80°)	1971.5	14.9			G2/5000
FVH	(80°-90°)	72.2	0.5			G1/100
BL	(0°-30°)	625.0	4.7	B2/1000		
BM	(30°-60°)	822.2	6.2	B1/1000		
BH	(60°-80°)	478.6	3.6	B1/500		G1/500
BVH	(80°-90°)	107.3	0.8			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	3535.3	3535.3	3535.3	3535.3	3535.3	3535.3	3535.3	3535.3	3535.3	3535.3	3535.3
2.5°	4012.8	4010.4	3976.4	3954.0	3927.6	3866.3	3805.1	3759.6	3736.3	3647.8	3561.8
5°	4344.5	4334.8	4315.6	4291.7	4257.0	4179.9	4083.1	3999.6	3966.4	3809.3	3651.1
7.5°	4169.3	4184.9	4243.6	4309.8	4379.4	4384.3	4315.6	4216.4	4179.9	3969.7	3738.1
10°	3683.4	3676.8	3750.5	3879.6	4108.8	4335.5	4448.9	4400.1	4362.0	4122.1	3824.9
12.5°	3536.1	3534.4	3546.9	3580.0	3724.0	4035.2	4414.9	4520.9	4507.7	4283.4	3917.6
15°	3580.9	3582.5	3581.6	3585.8	3625.6	3773.6	4225.5	4561.5	4602.9	4443.1	4012.0
17.5°	3724.0	3718.2	3699.9	3680.1	3685.9	3738.9	4021.1	4491.9	4616.1	4585.5	4091.4
20°	3945.0	3945.0	3896.0	3840.7	3804.3	3815.9	3935.8	4372.8	4554.8	4706.3	4151.0
22.5°	4222.3	4226.2	4154.2	4053.3	3970.6	3939.2	3984.6	4284.3	4480.4	4818.0	4204.0
25°	4566.4	4565.6	4460.5	4315.6	4184.9	4109.6	4108.8	4288.3	4457.2	4948.8	4259.4
27.5°	4992.6	4953.7	4831.2	4625.2	4440.7	4325.6	4273.4	4392.7	4506.0	5109.3	4333.9
30°	5473.5	5433.7	5273.2	5008.3	4758.5	4590.4	4504.3	4573.0	4655.0	5313.8	4446.5
32.5°	5949.2	5958.4	5769.7	5470.9	5149.8	4913.2	4785.8	4827.9	4885.0	5563.6	4598.7
35°	6646.0	6645.2	6398.7	6025.4	5643.9	5316.2	5154.9	5177.1	5229.2	5916.2	4812.3
37.5°	7165.8	7157.5	6998.6	6668.4	6238.9	5845.8	5612.4	5615.7	5660.4	6358.9	5093.5
40°	7218.8	7217.1	7216.2	7169.0	6875.2	6504.5	6212.4	6152.1	6170.2	6828.9	5392.3
42.5°	6814.1	6874.5	7048.2	7314.7	7396.7	7202.2	6925.7	6790.9	6751.1	7368.6	5708.5
45°	6237.3	6267.8	6572.4	7171.6	7659.0	7857.6	7649.9	7365.1	7297.3	7893.2	5965.8
47.5°	5969.2	5955.8	6132.1	6785.1	7633.3	8379.0	8393.9	7927.1	7812.0	8345.9	6185.0
50°	5394.0	5376.6	5599.2	6216.6	7353.5	8637.9	9157.7	8539.4	8326.7	8776.1	6383.7
52.5°	4247.8	4231.3	4530.0	5325.3	6727.9	8541.2	9801.5	9290.9	8928.4	9190.8	6569.1
55°	2764.0	2765.7	3050.3	3870.4	5444.5	7976.8	10103.5	10159.0	9752.7	9605.4	6718.9
57.5°	1521.9	1507.8	1710.6	2214.5	3745.5	6694.9	9852.0	10784.7	10572.8	9961.2	6827.3
58°	1353.0	1336.5	1492.9	1927.4	3358.2	6333.2	9725.3	10824.4	10677.9	10019.9	6843.0
60°	964.1	936.0	912.0	1086.6	1934.8	4566.4	8881.2	10567.0	10708.5	10137.5	6828.1
62.5°	812.7	780.3	694.4	687.7	911.1	2233.6	7023.4	9280.2	9676.5	9866.8	6588.2
65°	754.8	722.4	609.1	568.4	618.2	964.1	4342.9	7165.8	7695.3	8925.9	5984.0
67.5°	713.4	675.3	553.6	500.6	510.6	576.8	1842.9	4686.4	5300.5	6960.6	4800.7
70°	676.1	633.9	509.8	448.5	440.2	438.5	720.0	2447.1	3038.7	4554.8	3215.8
72.5°	633.9	592.5	470.9	405.5	387.4	355.8	432.7	1011.3	1386.2	2232.7	1473.9
75°	572.6	538.7	427.9	370.0	338.4	288.8	319.5	484.9	597.5	854.9	684.4
77.5°	504.0	476.7	383.9	340.2	297.9	235.9	244.0	328.6	369.1	481.7	396.4
80°	356.6	366.6	335.2	299.6	262.3	190.3	187.8	240.8	264.9	323.6	266.5
82.5°	245.9	253.3	273.0	236.6	211.9	148.1	138.2	167.1	179.6	195.3	129.2
85°	175.5	170.5	189.4	169.7	155.5	94.3	88.5	105.9	113.4	119.2	62.1
87.5°	106.7	105.9	109.3	87.7	81.1	48.0	43.8	50.5	53.7	52.1	29.8
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°	3535.3	3535.3	3535.3	3535.3	3535.3	3535.3	3535.3	3535.3	3535.3	3535.3	3535.3
2.5°	3529.5	3488.9	3400.3	3329.2	3252.3	3193.5	3134.7	3101.7	3065.3	3044.5	3042.1
5°	3568.4	3485.6	3297.0	3121.5	2941.2	2778.9	2620.0	2502.5	2406.6	2352.0	2348.6
7.5°	3611.4	3481.5	3190.2	2886.5	2565.4	2246.0	1963.8	1764.3	1636.0	1576.5	1572.4
10°	3644.6	3464.2	3060.3	2587.7	2078.7	1656.8	1400.2	1282.7	1243.8	1233.9	1232.2
12.5°	3684.2	3451.7	2896.5	2204.7	1588.8	1261.2	1183.4	1175.9	1184.3	1189.2	1190.1
15°	3721.5	3427.7	2675.4	1780.1	1243.8	1127.1	1128.7	1144.5	1161.1	1168.5	1169.3
17.5°	3738.9	3369.0	2385.0	1402.7	1088.2	1066.7	1085.7	1106.5	1121.3	1127.1	1127.1
20°	3738.9	3274.6	2048.2	1136.2	1007.2	1011.3	1034.4	1050.2	1053.5	1048.5	1046.0
22.5°	3723.1	3157.9	1720.5	991.4	940.9	956.7	974.8	964.1	925.2	895.4	889.6
25°	3709.2	3019.7	1405.2	902.8	883.1	903.7	896.3	822.6	762.9	732.4	727.4
27.5°	3685.9	2852.5	1142.0	830.1	826.8	843.3	769.6	698.5	668.6	652.1	648.8
30°	3680.1	2671.3	955.8	765.5	771.3	748.1	663.6	640.5	633.9	624.9	620.7
32.5°	3699.2	2490.1	839.1	712.5	718.3	642.2	609.8	613.2	612.4	600.8	596.7
35°	3751.3	2313.8	764.7	664.6	648.0	575.1	579.3	589.2	589.2	575.1	570.3
37.5°	3842.3	2150.0	717.5	624.0	566.8	540.4	551.1	564.5	564.5	554.5	550.3
40°	3939.2	1990.2	681.9	591.7	515.6	516.4	527.1	537.1	541.3	542.9	539.5
42.5°	4026.9	1824.7	643.9	556.9	492.4	498.2	503.1	510.6	527.9	539.5	537.9
45°	4078.2	1658.4	602.4	513.9	476.7	479.1	477.5	490.7	511.5	528.9	528.9
47.5°	4125.3	1521.9	568.4	470.9	461.0	461.0	455.9	469.3	488.3	508.9	510.6
50°	4170.0	1433.3	544.5	437.8	441.1	438.5	436.9	449.4	475.1	499.9	504.0
52.5°	4215.6	1403.6	523.1	413.8	420.4	417.1	418.8	436.2	465.1	490.7	494.8
55°	4279.2	1422.5	500.6	397.2	400.6	399.7	406.3	426.2	451.9	477.5	479.1
57.5°	4358.0	1492.1	481.7	384.8	381.6	386.4	397.2	416.3	441.1	471.7	474.1
58°	4373.6	1508.7	478.3	381.6	377.4	384.8	395.5	413.8	439.4	471.7	474.1
60°	4397.5	1567.5	470.1	374.9	363.3	376.5	389.7	408.0	436.2	475.9	480.8
62.5°	4281.8	1579.1	467.5	367.4	348.4	364.9	380.7	401.3	432.7	489.9	500.6
65°	3880.4	1459.8	450.1	355.0	336.0	355.8	372.3	396.4	442.7	532.1	537.1
67.5°	3114.9	1212.3	408.0	336.0	321.9	345.0	365.8	396.4	446.9	538.7	542.0
70°	2141.7	911.1	355.0	315.3	305.4	331.8	363.3	405.5	432.7	509.8	499.9
72.5°	1118.9	633.9	311.2	291.2	285.5	320.2	387.4	396.4	416.3	475.9	465.9
75°	563.6	431.1	273.9	264.0	263.2	316.1	433.6	381.6	398.9	447.8	469.3
77.5°	332.7	337.6	244.0	238.3	242.4	308.6	434.5	366.6	379.0	412.1	435.3
80°	227.6	278.9	220.9	219.3	222.6	283.8	400.6	348.4	355.8	389.7	414.6
82.5°	128.3	153.9	193.6	204.5	202.7	232.5	346.0	317.0	326.0	461.0	487.4
85°	62.1	92.7	162.2	191.2	172.9	154.7	281.4	281.4	283.8	330.2	334.4
87.5°	23.2	41.4	109.3	151.5	120.8	92.7	191.2	199.4	221.8	228.4	233.4
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)