

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: P195531

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195531
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-03-D-UNV-AFL-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12229 lumens
Efficiency: N/A
Efficacy: 127.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

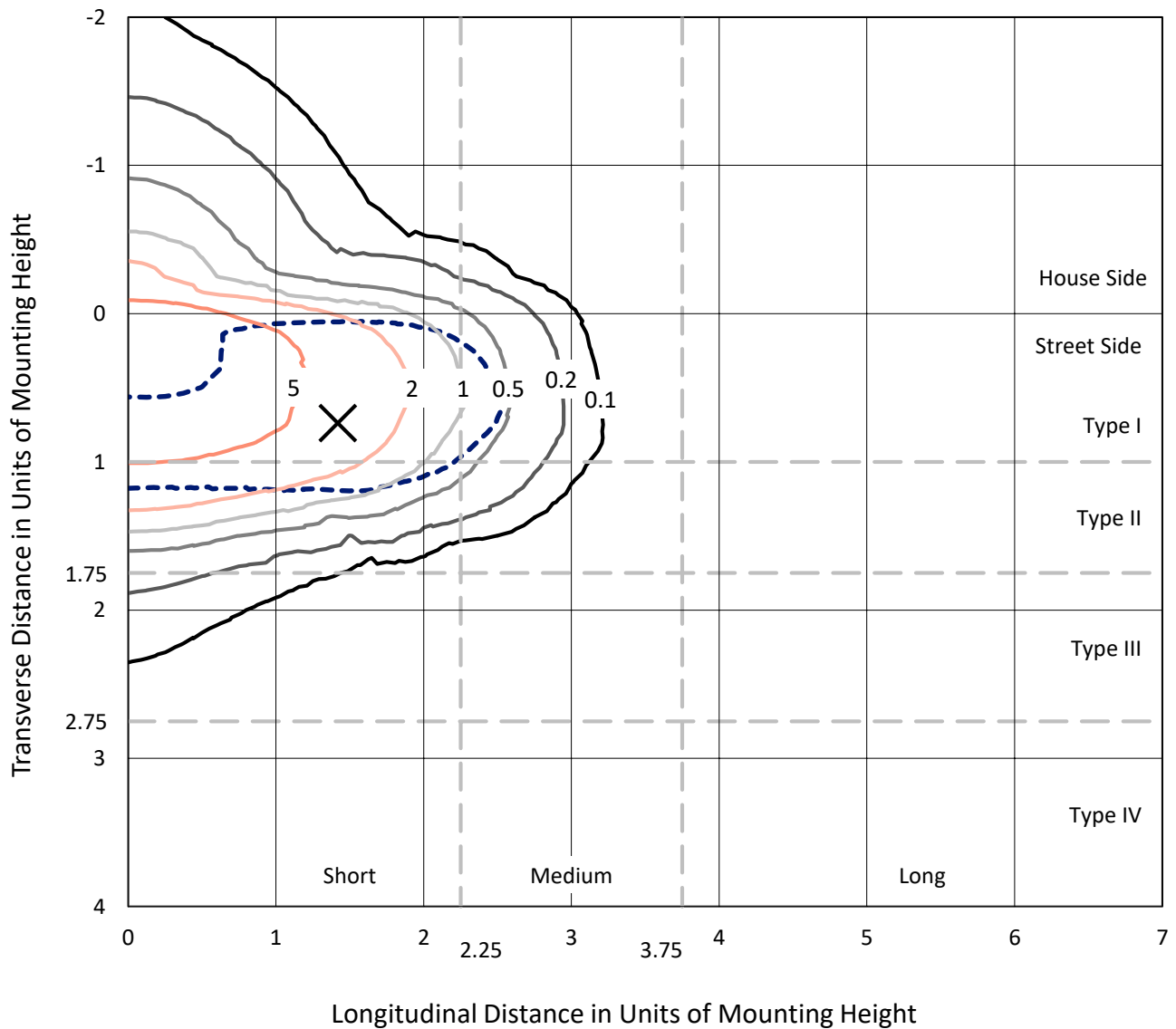
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

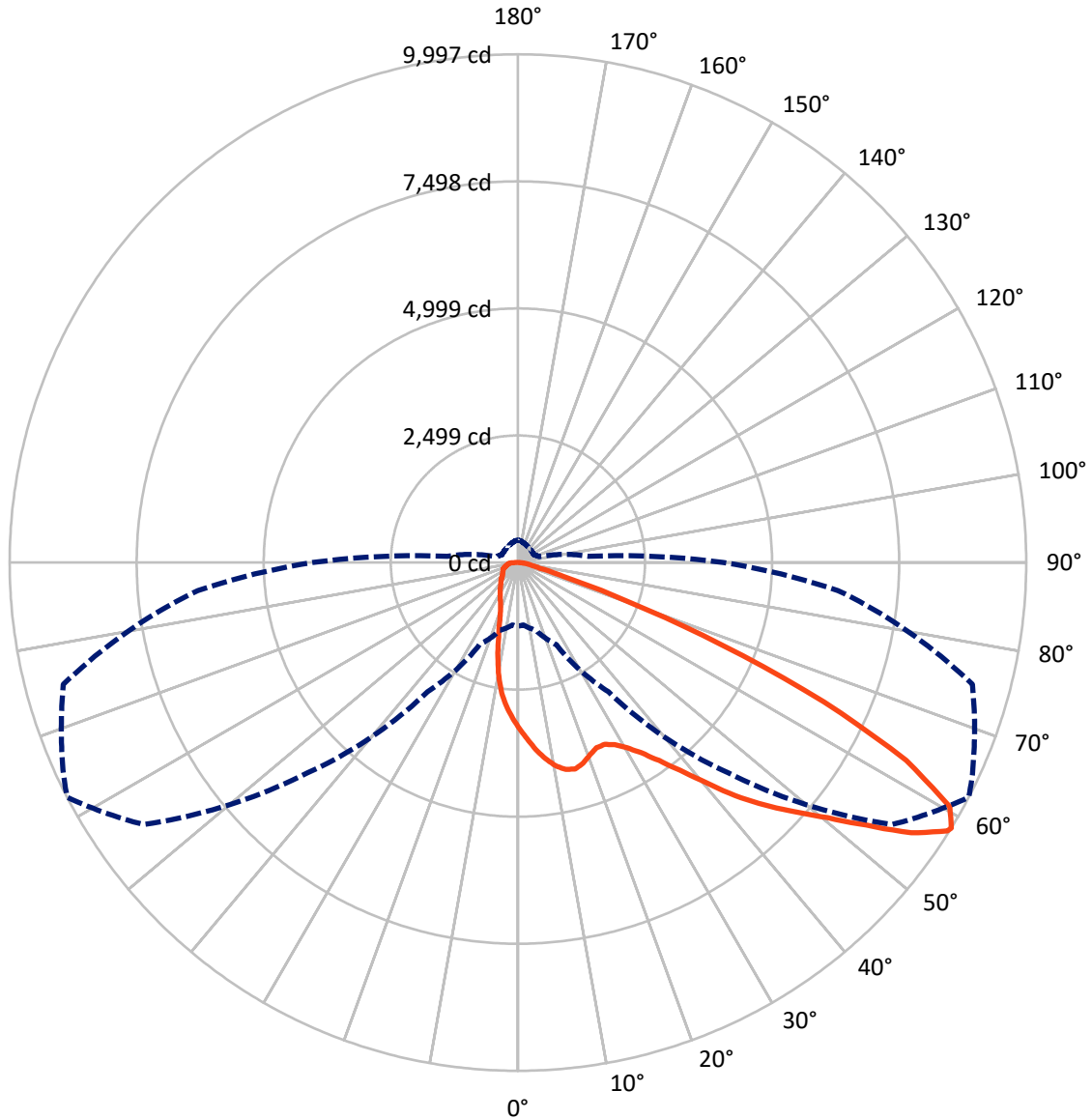
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.6 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	1877.6	0.0	1877.6
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	10351.4	0.0	10351.4
	% Fixture	84.6	0.0	84.6
Total	Lumens	12229.0	0.0	12229.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	291.8	2.4
10°-20°	736.5	6.0
20°-30°	1193.6	9.8
30°-40°	1905.8	15.6
40°-50°	2772.0	22.7
50°-60°	2900.6	23.7
60°-70°	1768.3	14.5
70°-80°	494.5	4.0
80°-90°	165.8	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°	12229.0	100.0
0°-180°	12229.0	100.0



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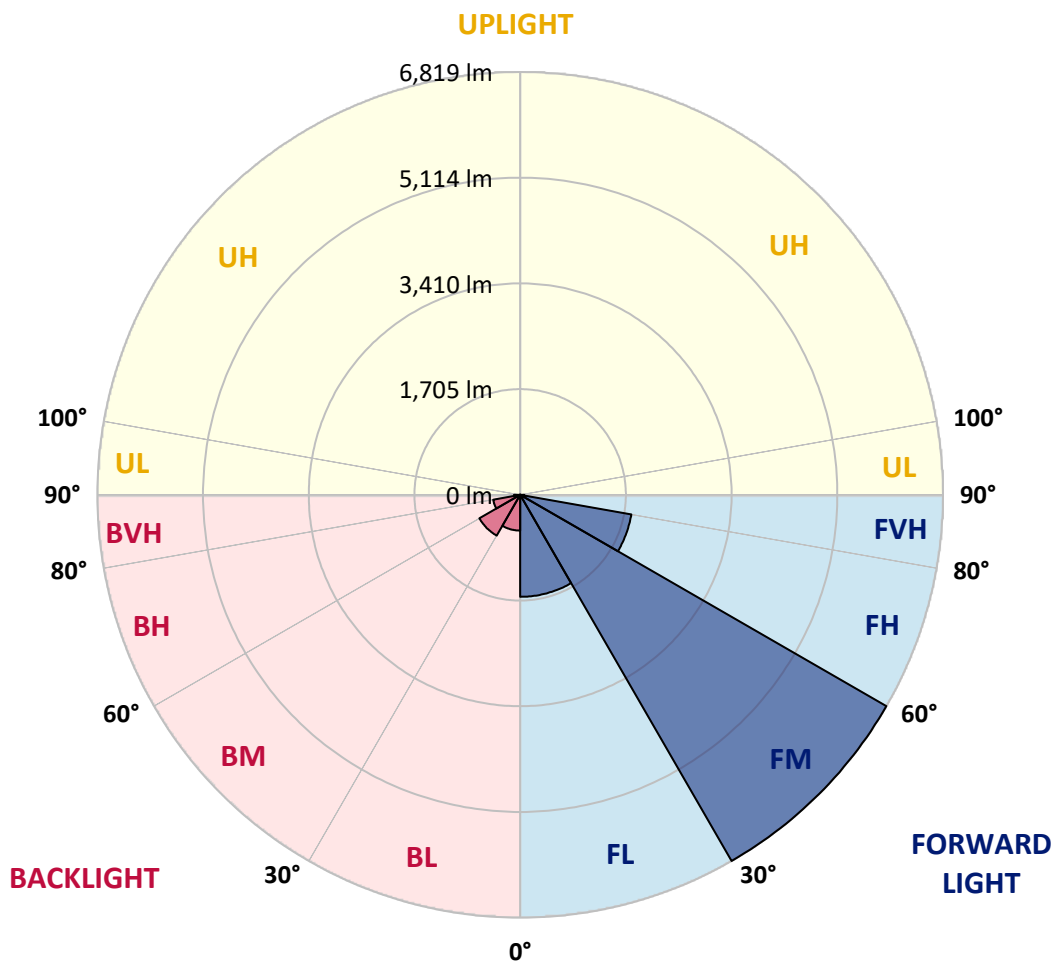
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1644.8	13.5			
FM	(30°-60°)	6819.0	55.8			
FH	(60°-80°)	1820.8	14.9			G2/5000
FVH	(80°-90°)	66.7	0.5			G1/100
BL	(0°-30°)	577.2	4.7	B2/1000		
BM	(30°-60°)	759.3	6.2	B1/1000		
BH	(60°-80°)	442.0	3.6	B1/500		G1/500
BVH	(80°-90°)	99.1	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-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	3265.1	3265.1	3265.1	3265.1	3265.1	3265.1	3265.1	3265.1	3265.1	3265.1	3265.1
2.5°	3706.1	3703.8	3672.4	3651.8	3627.3	3570.8	3514.2	3472.2	3450.8	3369.0	3289.5
5°	4012.5	4003.4	3985.8	3963.6	3931.5	3860.4	3771.0	3693.8	3663.3	3518.0	3372.1
7.5°	3850.5	3865.0	3919.3	3980.4	4044.6	4049.2	3985.8	3894.1	3860.4	3666.3	3452.3
10°	3401.9	3395.8	3463.8	3583.0	3794.7	4004.1	4108.8	4063.7	4028.6	3806.9	3532.6
12.5°	3265.8	3264.3	3275.8	3306.3	3439.3	3726.7	4077.5	4175.3	4163.1	3956.0	3618.2
15°	3307.1	3308.6	3307.9	3311.7	3348.4	3485.2	3902.5	4212.8	4251.0	4103.5	3705.3
17.5°	3439.3	3434.0	3417.2	3398.8	3404.2	3453.1	3713.7	4148.6	4263.2	4235.0	3778.7
20°	3643.4	3643.4	3598.3	3547.1	3513.5	3524.2	3635.0	4038.5	4206.7	4346.5	3833.7
22.5°	3899.4	3903.2	3836.8	3743.5	3667.1	3638.0	3680.1	3956.7	4137.9	4449.7	3882.6
25°	4217.4	4216.6	4119.5	3985.8	3865.0	3795.5	3794.7	3960.6	4116.5	4570.5	3933.8
27.5°	4611.0	4575.1	4461.9	4271.6	4101.2	3995.0	3946.8	4056.9	4161.6	4718.7	4002.6
30°	5055.0	5018.4	4870.1	4625.5	4394.7	4239.5	4160.1	4223.5	4299.2	4907.5	4106.6
32.5°	5494.5	5502.9	5328.7	5052.7	4756.2	4537.6	4419.9	4458.9	4511.6	5138.3	4247.2
35°	6138.0	6137.3	5909.5	5564.8	5212.5	4909.8	4760.8	4781.4	4829.6	5463.9	4444.4
37.5°	6618.0	6610.4	6463.6	6158.7	5762.0	5399.0	5183.4	5186.5	5227.8	5872.8	4704.2
40°	6666.9	6665.4	6664.6	6621.1	6349.8	6007.3	5737.6	5681.8	5698.6	6307.0	4980.1
42.5°	6293.2	6349.0	6509.5	6755.6	6831.3	6651.6	6396.4	6271.8	6235.1	6805.3	5272.1
45°	5760.5	5788.8	6070.0	6623.4	7073.5	7257.0	7065.1	6802.2	6739.5	7289.8	5509.8
47.5°	5512.9	5500.6	5663.4	6266.4	7049.8	7738.5	7752.2	7321.2	7214.9	7707.9	5712.3
50°	4981.7	4965.6	5171.2	5741.4	6791.5	7977.7	8457.7	7886.7	7690.3	8105.3	5895.8
52.5°	3923.1	3907.8	4183.7	4918.2	6213.7	7888.3	9052.3	8580.7	8246.0	8488.2	6067.0
55°	2552.7	2554.3	2817.2	3574.6	5028.3	7367.0	9331.3	9382.5	9007.2	8871.2	6205.3
57.5°	1405.5	1392.5	1579.8	2045.2	3459.2	6183.1	9098.9	9960.3	9764.6	9199.8	6305.4
58°	1249.6	1234.3	1378.8	1780.0	3101.5	5849.1	8982.0	9997.0	9861.7	9254.1	6319.9
60°	890.4	864.4	842.3	1003.5	1786.9	4217.4	8202.4	9759.3	9890.0	9362.6	6306.2
62.5°	750.5	720.7	641.2	635.1	841.5	2062.8	6486.6	8570.8	8936.9	9112.7	6084.5
65°	697.0	667.2	562.5	525.1	570.9	890.4	4011.0	6618.0	7107.2	8243.7	5526.6
67.5°	658.8	623.7	511.3	462.4	471.6	532.7	1702.1	4328.2	4895.3	6428.5	4433.7
70°	624.4	585.4	470.8	414.2	406.6	405.1	664.9	2260.0	2806.5	4206.7	2970.0
72.5°	585.4	547.2	434.9	374.5	357.7	328.6	399.7	934.0	1280.2	2062.1	1361.2
75°	528.9	497.6	395.1	341.6	312.6	266.7	295.0	447.9	551.8	789.5	632.1
77.5°	465.5	440.2	354.6	314.1	275.1	217.8	225.5	303.4	340.9	444.8	366.1
80°	329.4	338.6	309.5	276.7	242.3	175.8	173.5	222.4	244.6	298.8	246.1
82.5°	227.0	233.9	252.2	218.6	195.7	136.8	127.6	154.4	165.9	180.4	119.2
85°	162.0	157.4	175.0	156.7	143.7	87.1	81.8	97.8	104.7	110.1	57.3
87.5°	98.6	97.8	100.9	81.0	74.9	44.3	40.5	46.6	49.7	48.2	27.5
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°	3265.1	3265.1	3265.1	3265.1	3265.1	3265.1	3265.1	3265.1	3265.1	3265.1	3265.1
2.5°	3259.7	3222.3	3140.5	3074.8	3003.7	2949.4	2895.1	2864.6	2830.9	2811.8	2809.5
5°	3295.6	3219.2	3044.9	2882.9	2716.3	2566.5	2419.8	2311.2	2222.6	2172.1	2169.1
7.5°	3335.4	3215.4	2946.4	2665.9	2369.3	2074.3	1813.7	1629.5	1511.0	1456.0	1452.2
10°	3365.9	3199.3	2826.4	2389.9	1919.9	1530.1	1293.2	1184.7	1148.7	1139.6	1138.0
12.5°	3402.6	3187.9	2675.0	2036.1	1467.4	1164.8	1092.9	1086.1	1093.7	1098.3	1099.1
15°	3437.0	3165.7	2471.0	1644.0	1148.7	1041.0	1042.5	1057.0	1072.3	1079.2	1079.9
17.5°	3453.1	3111.4	2202.7	1295.5	1005.0	985.2	1002.8	1021.9	1035.6	1041.0	1041.0
20°	3453.1	3024.3	1891.6	1049.4	930.1	934.0	955.4	969.9	972.9	968.4	966.1
22.5°	3438.6	2916.5	1589.0	915.6	869.0	883.5	900.3	890.4	854.5	827.0	821.6
25°	3425.6	2788.9	1297.8	833.8	815.5	834.6	827.7	759.7	704.7	676.4	671.8
27.5°	3404.2	2634.5	1054.7	766.6	763.5	778.8	710.8	645.1	617.5	602.3	599.2
30°	3398.8	2467.1	882.8	707.0	712.3	690.9	613.0	591.6	585.4	577.0	573.2
32.5°	3416.4	2299.8	775.0	658.1	663.4	593.1	563.3	566.3	565.6	554.9	551.1
35°	3464.5	2137.0	706.2	613.7	598.4	531.2	535.0	544.2	544.2	531.2	526.6
37.5°	3548.6	1985.6	662.6	576.3	523.5	499.1	509.0	521.2	521.2	512.1	508.3
40°	3638.0	1838.1	629.8	546.5	476.2	476.9	486.9	496.0	499.8	501.4	498.3
42.5°	3719.1	1685.3	594.6	514.4	454.8	460.1	464.7	471.6	487.6	498.3	496.8
45°	3766.4	1531.6	556.4	474.6	440.2	442.5	441.0	453.2	472.3	488.4	488.4
47.5°	3810.0	1405.5	525.1	434.9	425.7	425.7	421.1	433.4	450.9	470.0	471.6
50°	3851.3	1323.8	502.9	404.3	407.4	405.1	403.5	415.0	438.7	461.6	465.5
52.5°	3893.3	1296.2	483.0	382.1	388.3	385.2	386.7	402.8	429.5	453.2	457.0
55°	3952.2	1313.8	462.4	366.9	369.9	369.2	375.3	393.6	417.3	441.0	442.5
57.5°	4024.8	1378.0	444.8	355.4	352.3	356.9	366.9	384.4	407.4	435.6	437.9
58°	4039.3	1393.3	441.8	352.3	348.5	355.4	365.3	382.1	405.8	435.6	437.9
60°	4061.5	1447.6	434.1	346.2	335.5	347.8	360.0	376.8	402.8	439.5	444.1
62.5°	3954.5	1458.3	431.8	339.3	321.8	337.1	351.6	370.7	399.7	452.5	462.4
65°	3583.8	1348.2	415.8	327.9	310.3	328.6	343.9	366.1	408.9	491.4	496.0
67.5°	2876.8	1119.7	376.8	310.3	297.3	318.7	337.8	366.1	412.7	497.6	500.6
70°	1978.0	841.5	327.9	291.2	282.0	306.5	335.5	374.5	399.7	470.8	461.6
72.5°	1033.3	585.4	287.4	269.0	263.7	295.8	357.7	366.1	384.4	439.5	430.3
75°	520.5	398.2	253.0	243.8	243.0	292.0	400.5	352.3	368.4	413.5	433.4
77.5°	307.2	311.8	225.5	220.1	223.9	285.1	401.3	338.6	350.0	380.6	402.0
80°	210.2	257.6	204.1	202.5	205.6	262.2	369.9	321.8	328.6	360.0	382.9
82.5°	118.5	142.2	178.8	188.8	187.3	214.8	319.5	292.7	301.1	425.7	450.2
85°	57.3	85.6	149.8	176.6	159.7	142.9	259.9	259.9	262.2	305.0	308.8
87.5°	21.4	38.2	100.9	139.9	111.6	85.6	176.6	184.2	204.8	210.9	215.5
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)