

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: P196502

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196502  
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  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12069.9 lumens  
Efficiency: N/A  
Efficacy: 106.8 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

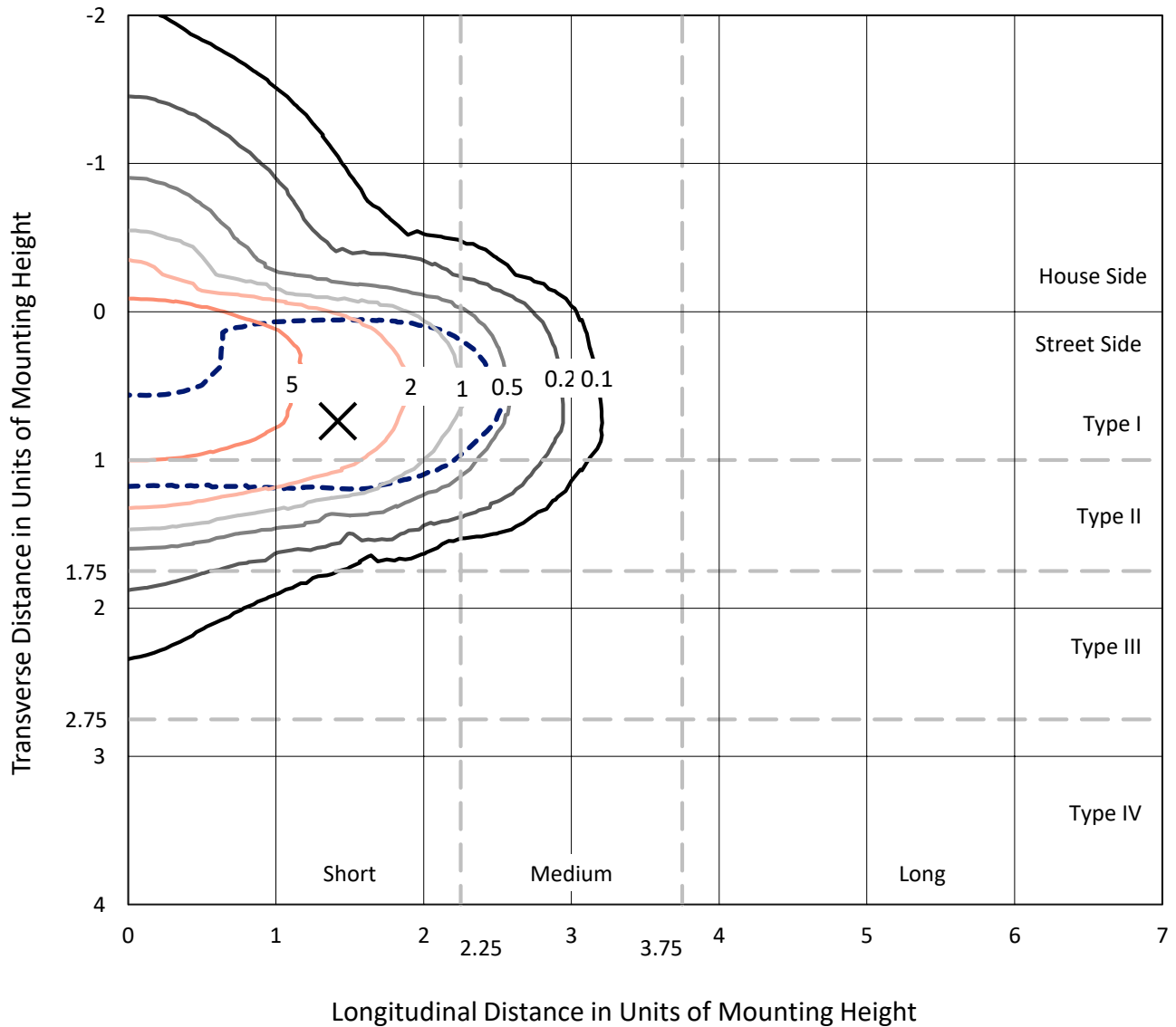
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

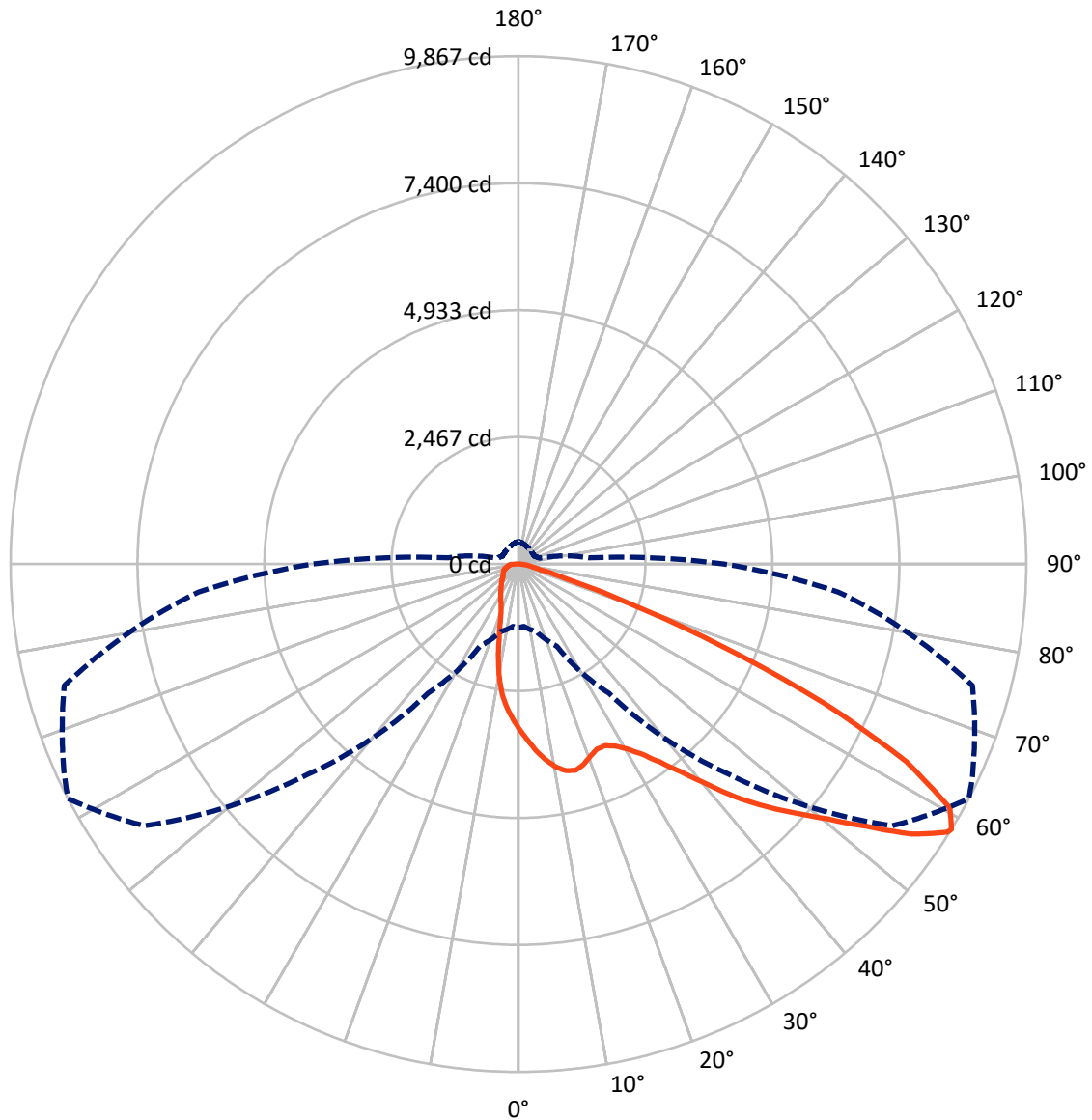
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.4 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
<b>House Side</b>	Lumens	1853.2	0.0	1853.2
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	10216.7	0.0	10216.7
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	12069.9	0.0	12069.9
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	288.0	2.4
10°-20°	727.0	6.0
20°-30°	1178.1	9.8
30°-40°	1881.0	15.6
40°-50°	2735.9	22.7
50°-60°	2862.9	23.7
60°-70°	1745.3	14.5
70°-80°	488.1	4.0
80°-90°	163.6	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°	12069.9	100.0
0°-180°	12069.9	100.0

**Coefficient of Utilization**



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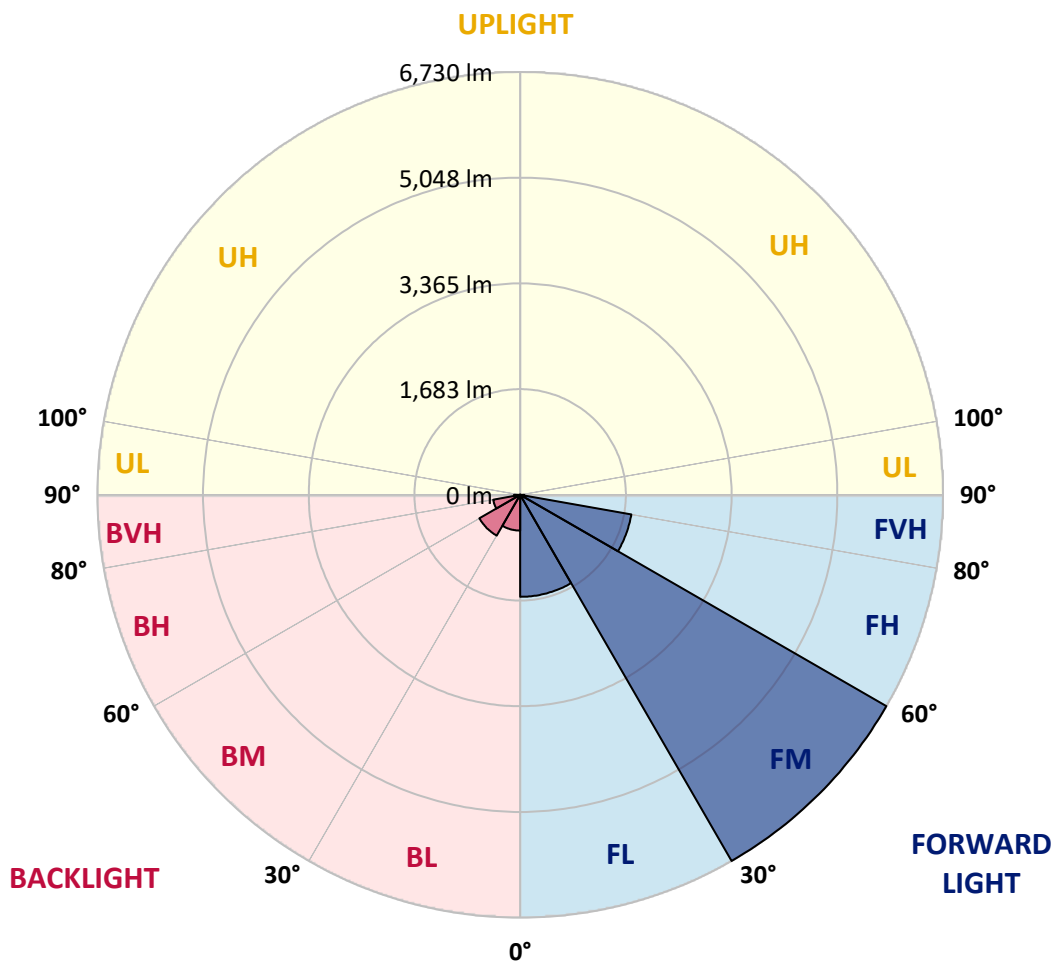
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1623.4	13.5			
FM	(30°-60°)	6730.3	55.8			
FH	(60°-80°)	1797.1	14.9			G1/1800
FVH	(80°-90°)	65.8	0.5			G1/100
BL	(0°-30°)	569.7	4.7	B2/1000		
BM	(30°-60°)	749.4	6.2	B1/1000		
BH	(60°-80°)	436.3	3.6	B1/500		G1/500
BVH	(80°-90°)	97.8	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





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	3222.6	3222.6	3222.6	3222.6	3222.6	3222.6	3222.6	3222.6	3222.6	3222.6	3222.6
2.5°	3657.8	3655.6	3624.6	3604.3	3580.1	3524.2	3468.6	3427.0	3405.8	3325.2	3246.7
5°	3960.3	3951.3	3933.9	3912.0	3880.4	3810.2	3721.9	3645.8	3615.6	3472.3	3328.1
7.5°	3800.4	3814.8	3868.4	3928.6	3992.0	3996.4	3933.9	3843.4	3810.2	3618.5	3407.4
10°	3357.6	3351.5	3418.7	3536.4	3745.3	3952.0	4055.3	4010.9	3976.2	3757.4	3486.6
12.5°	3223.3	3221.8	3233.1	3263.3	3394.5	3678.2	4024.4	4121.0	4108.9	3904.5	3571.1
15°	3264.0	3265.5	3264.7	3268.6	3304.8	3439.8	3851.7	4158.0	4195.7	4050.1	3657.1
17.5°	3394.5	3389.3	3372.8	3354.6	3359.8	3408.2	3665.4	4094.6	4207.8	4179.8	3729.4
20°	3595.9	3595.9	3551.5	3500.8	3467.8	3478.3	3587.6	3986.0	4152.0	4289.9	3783.7
22.5°	3848.6	3852.5	3786.8	3694.8	3619.3	3590.7	3632.3	3905.3	4084.0	4391.7	3832.0
25°	4162.4	4161.8	4066.0	3933.9	3814.8	3746.1	3745.3	3909.1	4063.0	4511.0	3882.6
27.5°	4550.9	4515.5	4403.9	4216.1	4047.8	3942.9	3895.4	4004.2	4107.4	4657.4	3950.5
30°	4989.3	4953.0	4806.8	4565.3	4337.5	4184.4	4106.0	4168.6	4243.2	4843.7	4053.1
32.5°	5423.0	5431.3	5259.3	4987.0	4694.4	4478.5	4362.4	4400.9	4453.0	5071.5	4191.9
35°	6058.2	6057.5	5832.6	5492.5	5144.7	4845.9	4698.8	4719.2	4766.8	5392.8	4386.5
37.5°	6531.9	6524.3	6379.5	6078.5	5687.1	5328.7	5115.9	5119.1	5159.8	5796.4	4643.0
40°	6580.1	6578.7	6578.0	6534.9	6267.1	5929.2	5662.9	5607.8	5624.4	6224.9	4915.3
42.5°	6211.3	6266.3	6424.8	6667.6	6742.4	6565.1	6313.1	6190.2	6154.0	6716.7	5203.5
45°	5685.6	5713.3	5991.0	6537.2	6981.4	7162.5	6973.2	6713.7	6651.8	7194.9	5438.1
47.5°	5441.1	5429.1	5589.7	6184.9	6958.0	7637.8	7651.3	7225.9	7121.1	7607.6	5638.0
50°	4916.8	4901.1	5103.9	5666.6	6703.2	7873.9	8347.6	7784.0	7590.2	7999.9	5819.0
52.5°	3872.0	3857.0	4129.4	4854.3	6132.8	7785.6	8934.4	8469.1	8138.6	8377.8	5988.1
55°	2519.5	2521.0	2780.5	3528.1	4962.9	7271.2	9209.8	9260.4	8890.0	8755.7	6124.5
57.5°	1387.3	1374.4	1559.2	2018.7	3414.2	6102.6	8980.6	9830.7	9637.5	9080.1	6223.4
58°	1233.3	1218.2	1360.9	1756.9	3061.1	5773.0	8865.1	9866.8	9733.4	9133.6	6237.7
60°	878.8	853.2	831.3	990.4	1763.7	4162.4	8095.7	9632.3	9761.2	9240.8	6224.2
62.5°	740.8	711.4	632.9	626.8	830.6	2035.9	6402.1	8459.3	8820.6	8994.1	6005.3
65°	688.0	658.5	555.1	518.2	563.4	878.8	3958.8	6531.9	7014.7	8136.4	5454.7
67.5°	650.2	615.5	504.7	456.3	465.5	525.7	1680.0	4271.9	4831.6	6344.8	4376.0
70°	616.3	577.9	464.7	408.8	401.3	399.8	656.3	2230.6	2769.9	4152.0	2931.4
72.5°	577.9	540.1	429.2	369.7	353.0	324.4	394.5	921.8	1263.6	2035.3	1343.5
75°	522.0	491.1	389.9	337.2	308.5	263.4	291.1	442.1	544.6	779.2	623.9
77.5°	459.4	434.6	350.0	310.1	271.6	215.0	222.6	299.5	336.4	439.0	361.3
80°	325.1	334.3	305.5	273.0	239.2	173.5	171.2	219.5	241.4	295.0	242.9
82.5°	224.1	230.9	248.9	215.8	193.1	135.1	125.9	152.4	163.7	178.0	117.7
85°	159.9	155.3	172.7	154.6	141.8	86.0	80.8	96.5	103.4	108.6	56.6
87.5°	97.4	96.5	99.5	80.0	74.0	43.7	40.0	46.0	49.0	47.5	27.2
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°	3222.6	3222.6	3222.6	3222.6	3222.6	3222.6	3222.6	3222.6	3222.6	3222.6	3222.6
2.5°	3217.2	3180.3	3099.5	3034.7	2964.6	2911.0	2857.4	2827.3	2794.1	2775.3	2773.0
5°	3252.7	3177.4	3005.2	2845.4	2681.0	2533.0	2388.3	2281.2	2193.6	2143.8	2140.8
7.5°	3292.0	3173.6	2908.1	2631.2	2338.4	2047.3	1790.1	1608.3	1491.4	1437.1	1433.3
10°	3322.1	3157.7	2789.6	2358.8	1894.9	1510.2	1276.3	1169.3	1133.8	1124.8	1123.1
12.5°	3358.4	3146.3	2640.2	2009.6	1448.3	1149.6	1078.7	1072.0	1079.5	1084.0	1084.7
15°	3392.3	3124.5	2438.7	1622.6	1133.8	1027.5	1028.9	1043.3	1058.4	1065.2	1066.0
17.5°	3408.2	3071.0	2174.0	1278.7	992.0	972.4	989.7	1008.6	1022.1	1027.5	1027.5
20°	3408.2	2985.0	1867.0	1035.7	918.0	921.8	942.9	957.2	960.3	955.8	953.5
22.5°	3393.8	2878.6	1568.3	903.7	857.6	872.0	888.6	878.8	843.4	816.1	810.9
25°	3381.0	2752.6	1280.8	822.9	804.9	823.7	816.9	749.8	695.6	667.6	663.1
27.5°	3359.8	2600.3	1041.0	756.6	753.6	768.6	701.6	636.7	609.5	594.5	591.4
30°	3354.6	2435.1	871.3	697.7	703.1	681.9	605.0	583.9	577.9	569.6	565.8
32.5°	3372.0	2269.9	765.0	649.5	654.8	585.4	555.9	559.0	558.2	547.6	543.9
35°	3419.5	2109.1	697.0	605.8	590.6	524.2	528.0	537.1	537.1	524.2	519.7
37.5°	3502.5	1959.8	654.0	568.8	516.7	492.5	502.4	514.5	514.5	505.5	501.6
40°	3590.7	1814.2	621.5	539.4	470.0	470.7	480.5	489.6	493.3	494.8	491.8
42.5°	3670.7	1663.4	586.8	507.7	448.8	454.1	458.7	465.5	481.3	491.8	490.3
45°	3717.4	1511.7	549.1	468.5	434.6	436.8	435.3	447.3	466.2	482.1	482.1
47.5°	3760.3	1387.3	518.2	429.2	420.2	420.2	415.6	427.7	445.0	464.0	465.5
50°	3801.1	1306.5	496.4	399.1	402.1	399.8	398.2	409.6	433.0	455.6	459.4
52.5°	3842.6	1279.4	476.7	377.2	383.2	380.2	381.8	397.6	423.9	447.3	451.1
55°	3900.8	1296.7	456.3	362.0	365.2	364.4	370.4	388.5	411.9	435.3	436.8
57.5°	3972.4	1360.1	439.0	350.7	347.8	352.3	362.0	379.4	402.1	429.9	432.2
58°	3986.8	1375.1	436.1	347.8	343.9	350.7	360.5	377.2	400.6	429.9	432.2
60°	4008.6	1428.8	428.6	341.8	331.2	343.2	355.3	371.9	397.6	433.8	438.2
62.5°	3903.0	1439.3	426.2	334.9	317.6	332.7	347.0	365.9	394.5	446.6	456.3
65°	3537.2	1330.7	410.4	323.6	306.3	324.4	339.5	361.3	403.6	485.0	489.6
67.5°	2839.3	1105.1	371.9	306.3	293.5	314.5	333.5	361.3	407.3	491.1	494.1
70°	1952.3	830.6	323.6	287.5	278.4	302.5	331.2	369.7	394.5	464.7	455.6
72.5°	1019.8	577.9	283.6	265.5	260.2	291.9	353.0	361.3	379.4	433.8	424.7
75°	513.7	393.0	249.6	240.6	240.0	288.1	395.3	347.8	363.7	408.1	427.7
77.5°	303.2	307.8	222.6	217.2	221.0	281.4	396.1	334.3	345.5	375.7	396.8
80°	207.5	254.2	201.4	200.0	202.9	258.7	365.2	317.6	324.4	355.3	377.9
82.5°	116.9	140.3	176.6	186.3	184.8	212.0	315.3	288.9	297.1	420.2	444.3
85°	56.6	84.4	147.8	174.3	157.7	141.1	256.4	256.4	258.7	301.0	304.8
87.5°	21.1	37.7	99.5	138.0	110.2	84.4	174.3	181.8	202.1	208.2	212.7
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)