

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: P196978

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-8030-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196978  
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-04-D-UNV-AFL-8030-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16481 lumens  
Efficiency: N/A  
Efficacy: 96.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B2 - U0 - G2

Input Watts (W): 171  
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

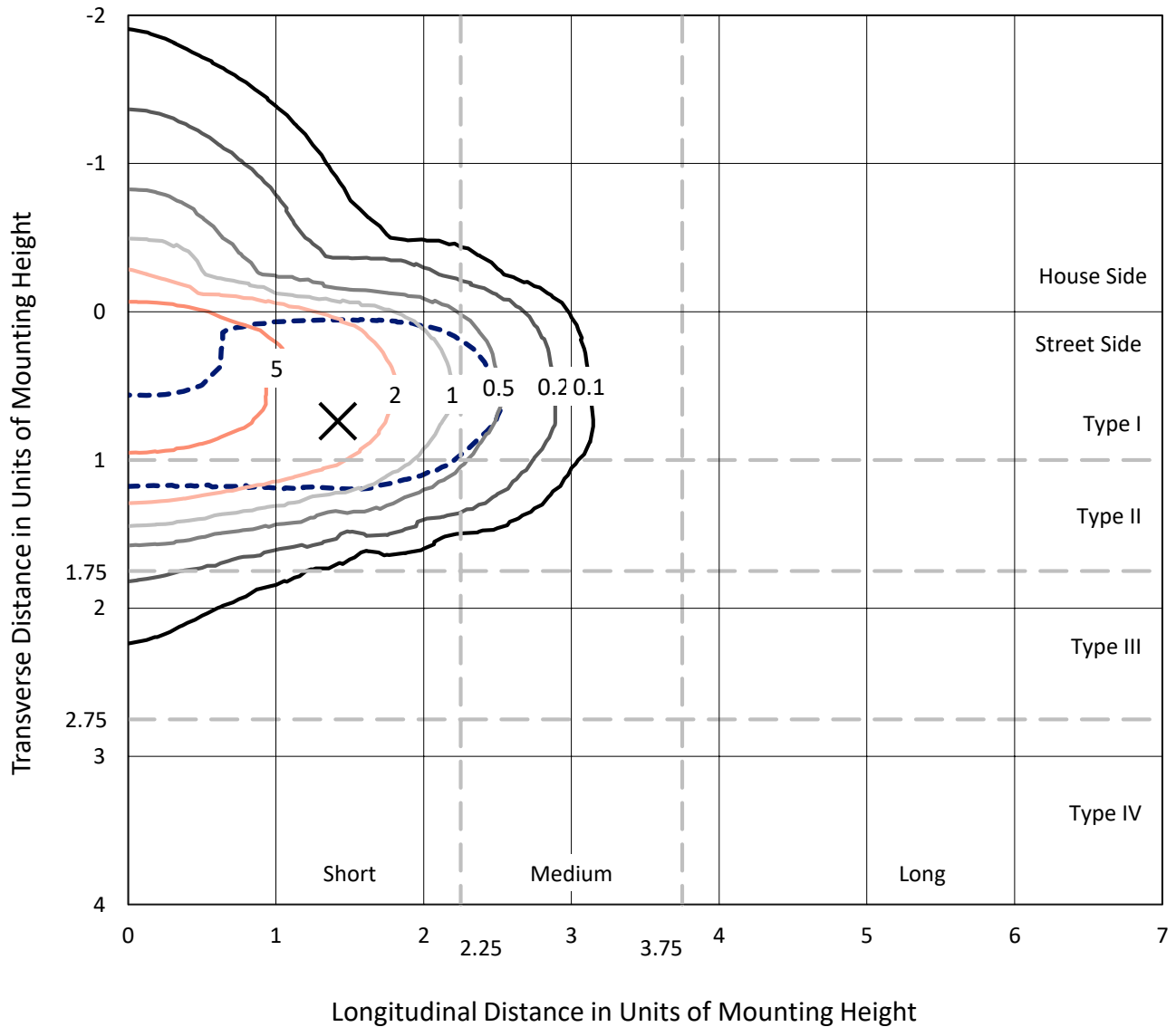


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### Iso-Footcandle Lines of Horizontal Illumination

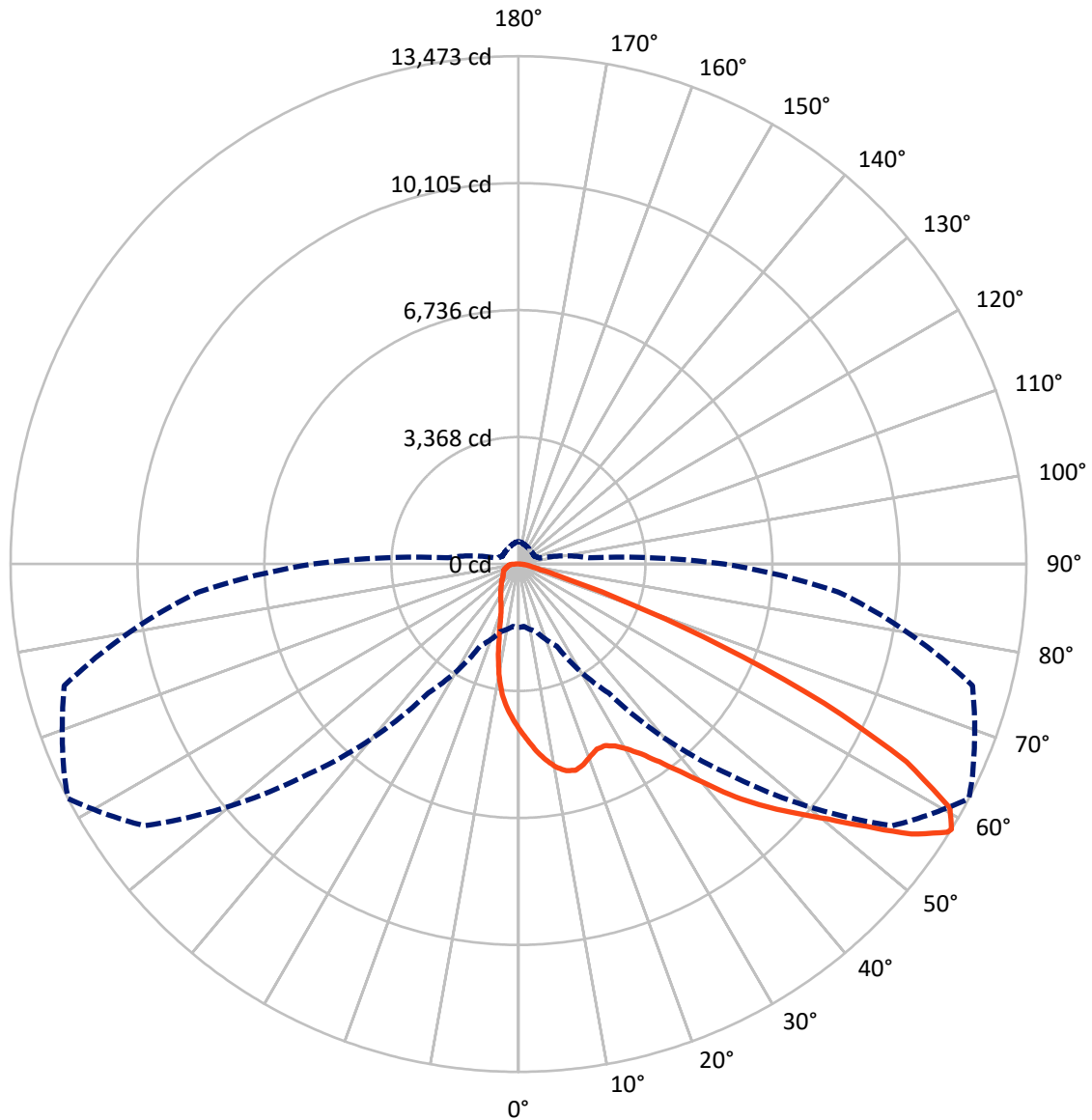
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.2 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	2530.5	0.0	2530.5
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	13950.5	0.0	13950.5
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	16481.0	0.0	16481.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	393.3	2.4
10°-20°	992.6	6.0
20°-30°	1608.7	9.8
30°-40°	2568.4	15.6
40°-50°	3735.8	22.7
50°-60°	3909.2	23.7
60°-70°	2383.2	14.5
70°-80°	666.5	4.0
80°-90°	223.4	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°	16481.0	100.0
0°-180°	16481.0	100.0



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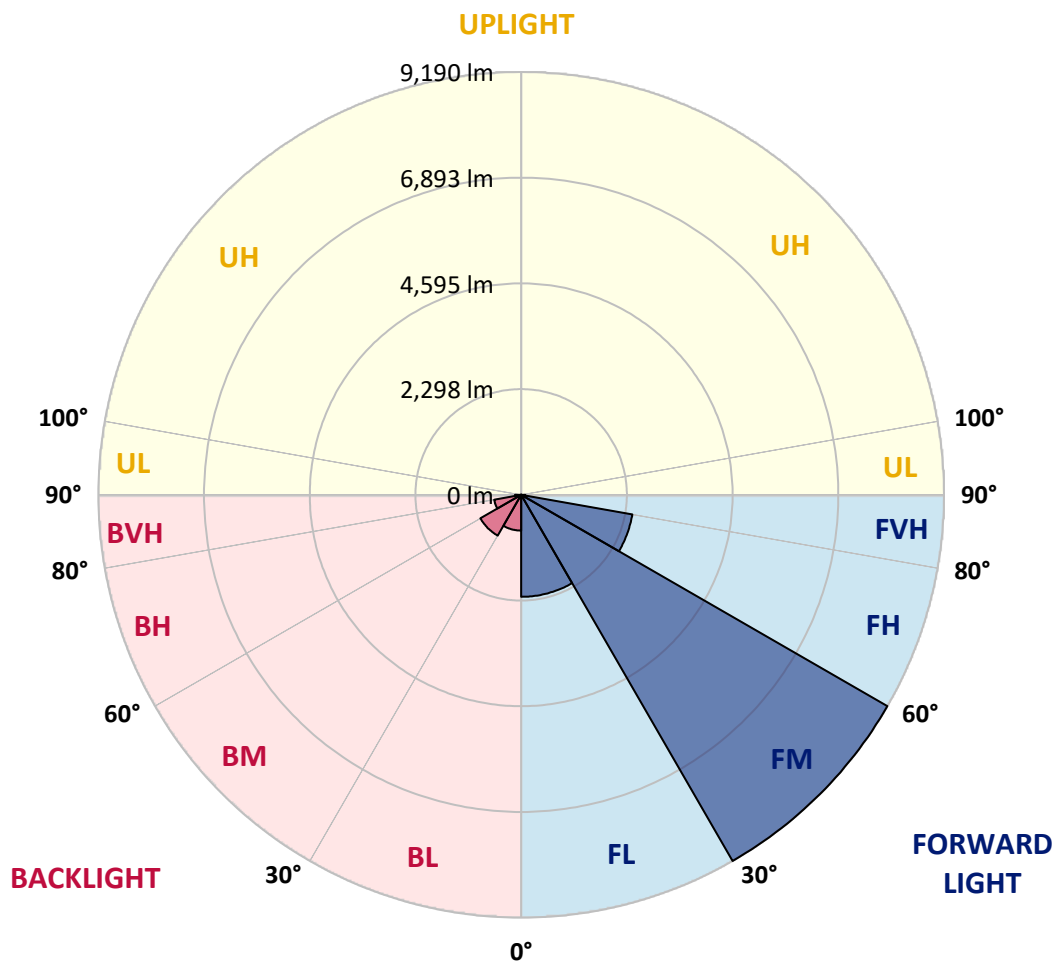
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2216.7	13.5			
FM (30°-60°)	9190.0	55.8			
FH (60°-80°)	2453.9	14.9			G2/5000
FVH (80°-90°)	89.9	0.5			G1/100
BL (0°-30°)	777.9	4.7	B2/1000		
BM (30°-60°)	1023.3	6.2	B2/2500		
BH (60°-80°)	595.7	3.6	B2/1000		G2/1000
BVH (80°-90°)	133.5	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°	4400.3	4400.3	4400.3	4400.3	4400.3	4400.3	4400.3	4400.3	4400.3	4400.3	4400.3
2.5°	4994.7	4991.6	4949.3	4921.5	4888.6	4812.3	4736.1	4679.5	4650.6	4540.4	4433.3
5°	5407.7	5395.3	5371.6	5341.8	5298.5	5202.7	5082.2	4978.2	4937.0	4741.3	4544.5
7.5°	5189.3	5208.9	5282.0	5364.4	5451.0	5457.1	5371.6	5248.0	5202.7	4941.1	4652.7
10°	4584.7	4576.5	4668.1	4828.8	5114.1	5396.4	5537.5	5476.7	5429.3	5130.6	4760.8
12.5°	4401.3	4399.3	4414.7	4455.9	4635.2	5022.5	5495.2	5627.1	5610.6	5331.5	4876.2
15°	4457.0	4459.0	4458.0	4463.2	4512.6	4697.0	5259.4	5677.6	5729.1	5530.3	4993.6
17.5°	4635.2	4628.0	4605.3	4580.6	4587.8	4653.7	5005.0	5591.0	5745.5	5707.4	5092.5
20°	4910.2	4910.2	4849.4	4780.4	4735.1	4749.5	4898.9	5442.7	5669.3	5857.8	5166.7
22.5°	5255.2	5260.4	5170.8	5045.1	4942.1	4903.0	4959.6	5332.5	5576.6	5996.9	5232.6
25°	5683.7	5682.7	5551.9	5371.6	5208.9	5115.2	5114.1	5337.7	5547.8	6159.6	5301.6
27.5°	6214.2	6165.8	6013.4	5756.9	5527.2	5384.0	5319.1	5467.4	5608.6	6359.4	5394.3
30°	6812.7	6763.2	6563.4	6233.8	5922.7	5713.6	5606.5	5692.0	5794.0	6613.9	5534.4
32.5°	7404.9	7416.3	7181.4	6809.6	6409.9	6115.3	5956.7	6009.2	6080.3	6924.9	5723.9
35°	8272.2	8271.2	7964.2	7499.7	7024.9	6617.0	6416.1	6443.9	6508.8	7363.7	5989.7
37.5°	8919.1	8908.8	8711.0	8300.0	7765.5	7276.2	6985.7	6989.8	7045.5	7914.8	6339.9
40°	8985.0	8983.0	8981.9	8923.2	8557.5	8096.1	7732.5	7657.3	7680.0	8499.9	6711.7
42.5°	8481.3	8556.5	8772.8	9104.5	9206.5	8964.4	8620.4	8452.5	8403.0	9171.5	7105.2
45°	7763.4	7801.5	8180.6	8926.3	9533.0	9780.2	9521.7	9167.3	9082.9	9824.5	7425.5
47.5°	7429.7	7413.2	7632.6	8445.3	9501.1	10429.1	10447.7	9866.7	9723.6	10387.9	7698.5
50°	6713.8	6692.2	6969.2	7737.6	9152.9	10751.5	11398.4	10629.0	10364.2	10923.5	7945.7
52.5°	5287.2	5266.6	5638.4	6628.3	8374.2	10631.0	12199.8	11564.2	11113.1	11439.6	8176.4
55°	3440.3	3442.4	3796.7	4817.5	6776.6	9928.5	12575.7	12644.7	12139.0	11955.6	8362.9
57.5°	1894.2	1876.7	2129.1	2756.4	4661.9	8333.0	12262.6	13423.4	13159.8	12398.6	8497.8
58°	1684.1	1663.5	1858.2	2399.0	4179.9	7882.9	12105.0	13472.9	13290.6	12471.7	8517.4
60°	1200.0	1165.0	1135.1	1352.4	2408.2	5683.7	11054.4	13152.5	13328.7	12618.0	8498.8
62.5°	1011.5	971.3	864.2	856.0	1134.1	2780.1	8741.9	11550.8	12044.2	12281.1	8200.1
65°	939.4	899.2	758.1	707.6	769.4	1200.0	5405.6	8919.1	9578.3	11110.0	7448.2
67.5°	887.9	840.5	689.1	623.2	635.5	717.9	2293.9	5833.1	6597.4	8663.6	5975.2
70°	841.5	789.0	634.5	558.3	548.0	545.9	896.1	3045.8	3782.3	5669.3	4002.7
72.5°	789.0	737.5	586.1	504.7	482.1	442.9	538.7	1258.7	1725.3	2779.0	1834.5
75°	712.8	670.6	532.5	460.4	421.3	359.5	397.6	603.6	743.7	1064.0	851.8
77.5°	627.3	593.3	477.9	423.3	370.8	293.6	303.9	408.9	459.4	599.5	493.4
80°	443.9	456.3	417.2	372.9	326.5	236.9	233.8	299.7	329.6	402.7	331.7
82.5°	305.9	315.2	339.9	294.6	263.7	184.4	172.0	208.1	223.5	243.1	160.7
85°	218.4	212.2	235.9	211.2	193.6	117.4	110.2	131.8	141.1	148.3	77.3
87.5°	132.9	131.8	136.0	109.2	100.9	59.7	54.6	62.8	67.0	64.9	37.1
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°	4400.3	4400.3	4400.3	4400.3	4400.3	4400.3	4400.3	4400.3	4400.3	4400.3	4400.3
2.5°	4393.1	4342.6	4232.4	4143.8	4048.0	3974.9	3901.8	3860.6	3815.3	3789.5	3786.4
5°	4441.5	4338.5	4103.7	3885.3	3660.8	3458.9	3261.1	3114.8	2995.3	2927.4	2923.2
7.5°	4495.1	4333.4	3970.8	3592.8	3193.1	2795.5	2444.3	2196.0	2036.4	1962.2	1957.1
10°	4536.3	4311.7	3809.1	3220.9	2587.5	2062.1	1742.8	1596.6	1548.1	1535.8	1533.7
12.5°	4585.7	4296.3	3605.1	2744.0	1977.7	1569.8	1473.0	1463.7	1474.0	1480.2	1481.2
15°	4632.1	4266.4	3330.1	2215.6	1548.1	1402.9	1405.0	1424.5	1445.1	1454.4	1455.4
17.5°	4653.7	4193.3	2968.6	1745.9	1354.5	1327.7	1351.4	1377.2	1395.7	1402.9	1402.9
20°	4653.7	4075.9	2549.3	1414.2	1253.6	1258.7	1287.5	1307.1	1311.2	1305.1	1302.0
22.5°	4634.1	3930.6	2141.4	1234.0	1171.2	1190.7	1213.4	1200.0	1151.6	1114.5	1107.3
25°	4616.6	3758.6	1749.0	1123.8	1099.0	1124.8	1115.5	1023.9	949.7	911.6	905.4
27.5°	4587.8	3550.5	1421.5	1033.1	1029.0	1049.6	957.9	869.4	832.3	811.7	807.5
30°	4580.6	3325.0	1189.7	952.8	960.0	931.2	826.1	797.2	789.0	777.7	772.5
32.5°	4604.3	3099.4	1044.5	886.9	894.1	799.3	759.1	763.3	762.2	747.8	742.7
35°	4669.2	2880.0	951.8	827.1	806.5	715.9	721.0	733.4	733.4	715.9	709.7
37.5°	4782.5	2676.0	893.0	776.6	705.6	672.6	686.0	702.5	702.5	690.1	685.0
40°	4903.0	2477.2	848.8	736.5	641.7	642.7	656.1	668.5	673.6	675.7	671.6
42.5°	5012.2	2271.2	801.4	693.2	612.9	620.1	626.3	635.5	657.2	671.6	669.5
45°	5076.0	2064.2	749.9	639.7	593.3	596.4	594.3	610.8	636.6	658.2	658.2
47.5°	5134.7	1894.2	707.6	586.1	573.7	573.7	567.6	584.0	607.7	633.5	635.5
50°	5190.4	1784.0	677.8	544.9	549.0	545.9	543.9	559.3	591.2	622.1	627.3
52.5°	5247.0	1746.9	651.0	515.0	523.3	519.1	521.2	542.8	578.9	610.8	616.0
55°	5326.3	1770.6	623.2	494.4	498.5	497.5	505.7	530.5	562.4	594.3	596.4
57.5°	5424.2	1857.2	599.5	479.0	474.8	481.0	494.4	518.1	549.0	587.1	590.2
58°	5443.7	1877.8	595.4	474.8	469.7	479.0	492.4	515.0	546.9	587.1	590.2
60°	5473.6	1950.9	585.1	466.6	452.2	468.7	485.1	507.8	542.8	592.3	598.5
62.5°	5329.4	1965.3	582.0	457.3	433.6	454.2	473.8	499.6	538.7	609.8	623.2
65°	4829.8	1817.0	560.3	441.9	418.2	442.9	463.5	493.4	551.1	662.3	668.5
67.5°	3877.1	1509.0	507.8	418.2	400.7	429.5	455.3	493.4	556.2	670.6	674.7
70°	2665.7	1134.1	441.9	392.4	380.1	413.0	452.2	504.7	538.7	634.5	622.1
72.5°	1392.6	789.0	387.3	362.6	355.4	398.6	482.1	493.4	518.1	592.3	579.9
75°	701.5	536.6	340.9	328.6	327.6	393.5	539.7	474.8	496.5	557.3	584.0
77.5°	414.1	420.3	303.9	296.7	301.8	384.2	540.8	456.3	471.8	513.0	541.8
80°	283.3	347.1	275.0	273.0	277.1	353.3	498.5	433.6	442.9	485.1	516.0
82.5°	159.7	191.6	241.0	254.4	252.4	289.4	430.6	394.5	405.8	573.7	606.7
85°	77.3	115.4	201.9	237.9	215.3	192.6	350.2	350.2	353.3	411.0	416.1
87.5°	28.8	51.5	136.0	188.5	150.4	115.4	237.9	248.2	276.0	284.3	290.5
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)