

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: P195532

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-7050-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195532  
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-7050-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 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: 16470 lumens  
Efficiency: N/A  
Efficacy: 127.7 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

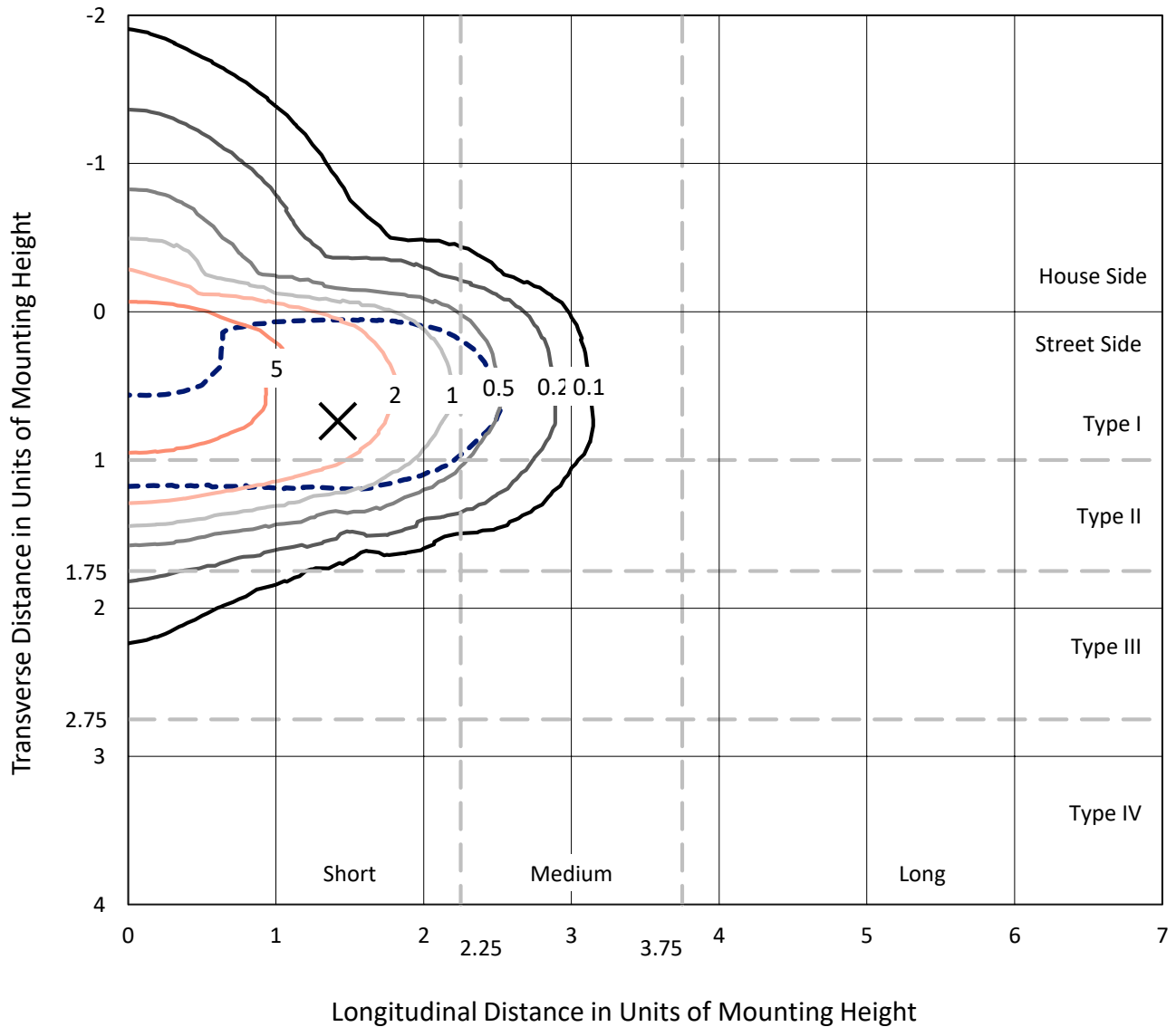
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

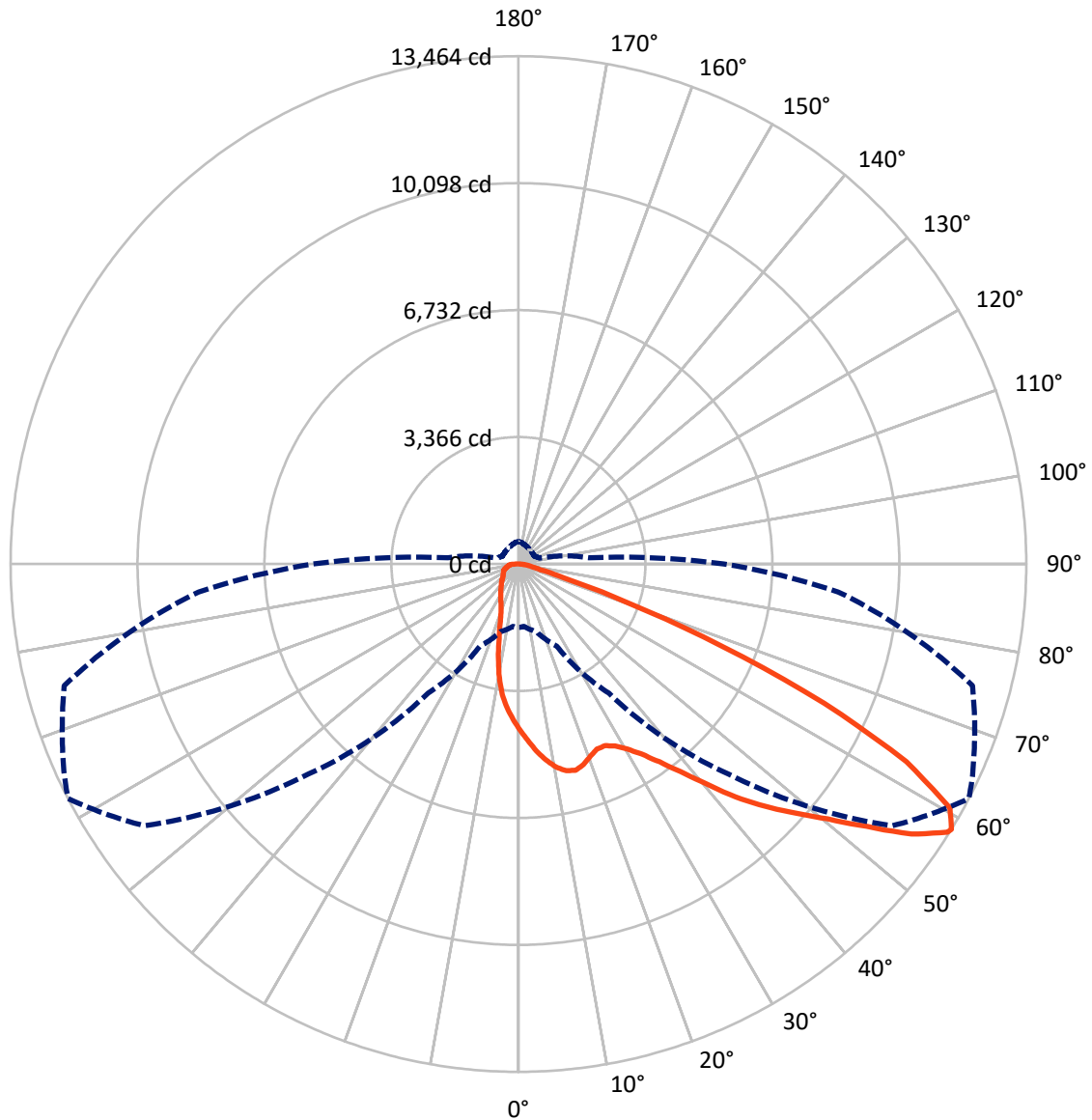
× Max cd  
 - - - 1/2 Max cd



Based on 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	2528.8	0.0	2528.8
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	13941.2	0.0	13941.2
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	16470.0	0.0	16470.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	393.1	2.4
10°-20°	992.0	6.0
20°-30°	1607.6	9.8
30°-40°	2566.7	15.6
40°-50°	3733.3	22.7
50°-60°	3906.6	23.7
60°-70°	2381.6	14.5
70°-80°	666.0	4.0
80°-90°	223.3	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°	16470.0	100.0
0°-180°	16470.0	100.0

**Coefficient of Utilization**



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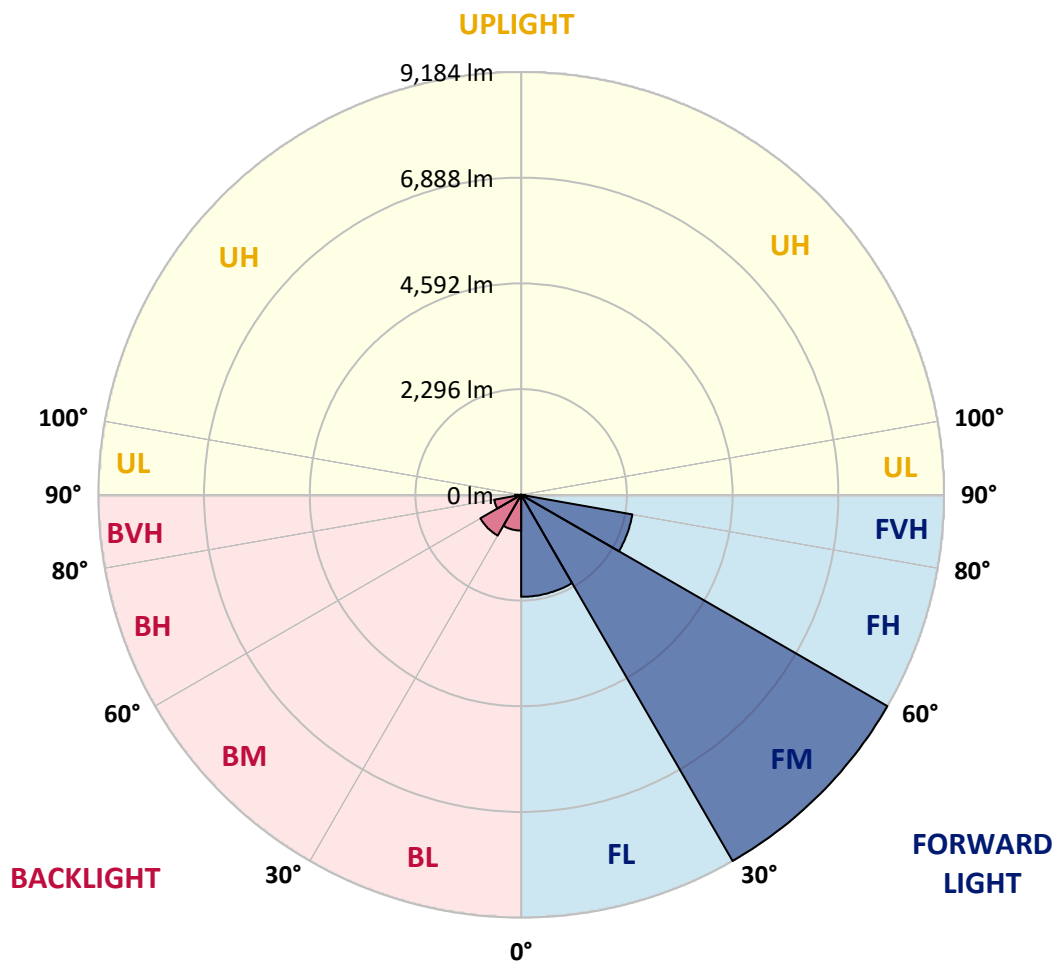
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2215.3	13.5			
FM (30°-60°)	9183.9	55.8			
FH (60°-80°)	2452.3	14.9			G2/5000
FVH (80°-90°)	89.8	0.5			G1/100
BL (0°-30°)	777.3	4.7	B2/1000		
BM (30°-60°)	1022.7	6.2	B2/2500		
BH (60°-80°)	595.3	3.6	B2/1000		G2/1000
BVH (80°-90°)	133.4	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°	4397.4	4397.4	4397.4	4397.4	4397.4	4397.4	4397.4	4397.4	4397.4	4397.4	4397.4
2.5°	4991.3	4988.2	4946.0	4918.2	4885.3	4809.1	4732.9	4676.3	4647.5	4537.4	4430.3
5°	5404.1	5391.7	5368.1	5338.2	5295.0	5199.2	5078.8	4974.8	4933.7	4738.1	4541.5
7.5°	5185.9	5205.4	5278.5	5360.9	5447.3	5453.5	5368.1	5244.5	5199.2	4937.8	4649.6
10°	4581.6	4573.4	4665.0	4825.6	5110.7	5392.8	5533.8	5473.1	5425.7	5127.2	4757.7
12.5°	4398.4	4396.4	4411.8	4453.0	4632.1	5019.1	5491.6	5623.3	5606.9	5327.9	4872.9
15°	4454.0	4456.1	4455.0	4460.2	4509.6	4693.8	5255.9	5673.8	5725.2	5526.6	4990.3
17.5°	4632.1	4624.9	4602.2	4577.5	4584.7	4650.6	5001.6	5587.3	5741.7	5703.6	5089.1
20°	4906.9	4906.9	4846.2	4777.2	4731.9	4746.3	4895.6	5439.1	5665.5	5853.9	5163.2
22.5°	5251.7	5256.9	5167.3	5041.8	4938.8	4899.7	4956.3	5328.9	5572.9	5992.9	5229.1
25°	5680.0	5678.9	5548.2	5368.1	5205.4	5111.8	5110.7	5334.1	5544.1	6155.5	5298.1
27.5°	6210.1	6161.7	6009.3	5753.0	5523.5	5380.4	5315.6	5463.8	5604.8	6355.2	5390.7
30°	6808.1	6758.7	6559.0	6229.6	5918.8	5709.8	5602.8	5688.2	5790.1	6609.5	5530.7
32.5°	7400.0	7411.3	7176.6	6805.0	6405.6	6111.2	5952.7	6005.2	6076.3	6920.3	5720.1
35°	8266.7	8265.7	7958.9	7494.7	7020.2	6612.5	6411.8	6439.6	6504.5	7358.8	5985.7
37.5°	8913.1	8902.8	8705.2	8294.5	7760.3	7271.3	6981.0	6985.2	7040.8	7909.5	6335.6
40°	8979.0	8977.0	8975.9	8917.3	8551.8	8090.7	7727.3	7652.2	7674.8	8494.2	6707.2
42.5°	8475.7	8550.8	8767.0	9098.4	9200.3	8958.4	8614.6	8446.8	8397.4	9165.3	7100.5
45°	7758.2	7796.3	8175.1	8920.3	9526.6	9773.7	9515.3	9161.2	9076.8	9817.9	7420.6
47.5°	7424.7	7408.2	7627.5	8439.6	9494.7	10422.2	10440.7	9860.1	9717.1	10381.0	7693.4
50°	6709.3	6687.7	6964.6	7732.5	9146.8	10744.4	11390.8	10621.9	10357.3	10916.3	7940.4
52.5°	5283.7	5263.1	5634.7	6623.9	8368.6	10623.9	12191.6	11556.5	11105.7	11432.0	8171.0
55°	3438.0	3440.1	3794.2	4814.3	6772.1	9921.9	12567.3	12636.3	12130.9	11947.7	8357.3
57.5°	1893.0	1875.5	2127.7	2754.5	4658.8	8327.4	12254.4	13414.5	13151.0	12390.3	8492.1
58°	1683.0	1662.4	1856.9	2397.4	4177.1	7877.6	12096.9	13463.9	13281.7	12463.4	8511.7
60°	1199.2	1164.2	1134.3	1351.5	2406.6	5680.0	11047.0	13143.8	13319.8	12609.5	8493.2
62.5°	1010.8	970.7	863.6	855.4	1133.3	2778.2	8736.1	11543.1	12036.2	12272.9	8194.7
65°	938.8	898.6	757.6	707.2	768.9	1199.2	5402.0	8913.1	9571.9	11102.6	7443.2
67.5°	887.3	839.9	688.6	622.8	635.1	717.5	2292.4	5829.2	6593.0	8657.9	5971.3
70°	841.0	788.5	634.1	557.9	547.6	545.6	895.5	3043.8	3779.8	5665.5	4000.1
72.5°	788.5	737.0	585.7	504.4	481.7	442.6	538.3	1257.9	1724.2	2777.2	1833.3
75°	712.3	670.1	532.2	460.1	421.0	359.2	397.3	603.2	743.2	1063.3	851.3
77.5°	626.9	592.9	477.6	423.1	370.6	293.4	303.7	408.7	459.1	599.1	493.1
80°	443.6	456.0	416.9	372.6	326.3	236.8	233.7	299.5	329.4	402.5	331.5
82.5°	305.7	315.0	339.7	294.4	263.5	184.3	171.9	207.9	223.4	242.9	160.6
85°	218.2	212.0	235.7	211.0	193.5	117.3	110.1	131.8	141.0	148.2	77.2
87.5°	132.8	131.8	135.9	109.1	100.9	59.7	54.6	62.8	66.9	64.8	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°	4397.4	4397.4	4397.4	4397.4	4397.4	4397.4	4397.4	4397.4	4397.4	4397.4	4397.4
2.5°	4390.2	4339.7	4229.6	4141.1	4045.3	3972.3	3899.2	3858.0	3812.7	3787.0	3783.9
5°	4438.6	4335.6	4100.9	3882.7	3658.3	3456.6	3258.9	3112.8	2993.3	2925.4	2921.3
7.5°	4492.1	4330.5	3968.1	3590.4	3191.0	2793.7	2442.6	2194.6	2035.0	1960.9	1955.8
10°	4533.3	4308.9	3806.5	3218.8	2585.7	2060.8	1741.7	1595.5	1547.1	1534.8	1532.7
12.5°	4582.7	4293.4	3602.7	2742.2	1976.4	1568.7	1472.0	1462.7	1473.0	1479.2	1480.2
15°	4629.0	4263.6	3327.9	2214.1	1547.1	1402.0	1404.0	1423.6	1444.2	1453.4	1454.5
17.5°	4650.6	4190.5	2966.6	1744.7	1353.6	1326.8	1350.5	1376.2	1394.8	1402.0	1402.0
20°	4650.6	4073.1	2547.6	1413.3	1252.7	1257.9	1286.7	1306.2	1310.4	1304.2	1301.1
22.5°	4631.0	3928.0	2140.0	1233.2	1170.4	1189.9	1212.6	1199.2	1150.8	1113.8	1106.6
25°	4613.5	3756.1	1747.8	1123.0	1098.3	1124.0	1114.8	1023.2	949.1	911.0	904.8
27.5°	4584.7	3548.2	1420.5	1032.4	1028.3	1048.9	957.3	868.8	831.7	811.1	807.0
30°	4577.5	3322.7	1188.9	952.1	959.4	930.5	825.5	796.7	788.5	777.2	772.0
32.5°	4601.2	3097.3	1043.8	886.3	893.5	798.8	758.6	762.7	761.7	747.3	742.2
35°	4666.0	2878.1	951.1	826.6	806.0	715.4	720.5	732.9	732.9	715.4	709.2
37.5°	4779.3	2674.3	892.4	776.1	705.1	672.2	685.5	702.0	702.0	689.7	684.5
40°	4899.7	2475.6	848.2	736.0	641.3	642.3	655.7	668.0	673.2	675.3	671.1
42.5°	5008.8	2269.7	800.8	692.8	612.5	619.7	625.8	635.1	656.7	671.1	669.1
45°	5072.6	2062.8	749.4	639.2	592.9	596.0	593.9	610.4	636.1	657.8	657.8
47.5°	5131.3	1893.0	707.2	585.7	573.3	573.3	567.2	583.6	607.3	633.1	635.1
50°	5186.9	1782.8	677.3	544.5	548.6	545.6	543.5	558.9	590.8	621.7	626.9
52.5°	5243.5	1745.8	650.5	514.7	522.9	518.8	520.9	542.5	578.5	610.4	615.6
55°	5322.8	1769.5	622.8	494.1	498.2	497.2	505.4	530.1	562.0	593.9	596.0
57.5°	5420.6	1855.9	599.1	478.6	474.5	480.7	494.1	517.8	548.6	586.7	589.8
58°	5440.1	1876.5	595.0	474.5	469.4	478.6	492.0	514.7	546.6	586.7	589.8
60°	5470.0	1949.6	584.7	466.3	451.9	468.4	484.8	507.5	542.5	591.9	598.1
62.5°	5325.9	1964.0	581.6	457.0	433.4	453.9	473.5	499.2	538.3	609.4	622.8
65°	4826.6	1815.8	560.0	441.6	417.9	442.6	463.2	493.1	550.7	661.9	668.0
67.5°	3874.5	1508.0	507.5	417.9	400.4	429.2	455.0	493.1	555.8	670.1	674.2
70°	2664.0	1133.3	441.6	392.2	379.8	412.8	451.9	504.4	538.3	634.1	621.7
72.5°	1391.7	788.5	387.0	362.3	355.1	398.4	481.7	493.1	517.8	591.9	579.5
75°	701.0	536.3	340.7	328.4	327.3	393.2	539.4	474.5	496.1	556.9	583.6
77.5°	413.8	420.0	303.7	296.5	301.6	383.9	540.4	456.0	471.4	512.6	541.4
80°	283.1	346.9	274.8	272.8	276.9	353.1	498.2	433.4	442.6	484.8	515.7
82.5°	159.5	191.5	240.9	254.2	252.2	289.2	430.3	394.2	405.6	573.3	606.3
85°	77.2	115.3	201.8	237.8	215.1	192.5	350.0	350.0	353.1	410.7	415.9
87.5°	28.8	51.5	135.9	188.4	150.3	115.3	237.8	248.1	275.9	284.1	290.3
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)