

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: P196017

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196017  
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-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15339.1 lumens  
Efficiency: N/A  
Efficacy: 123.7 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

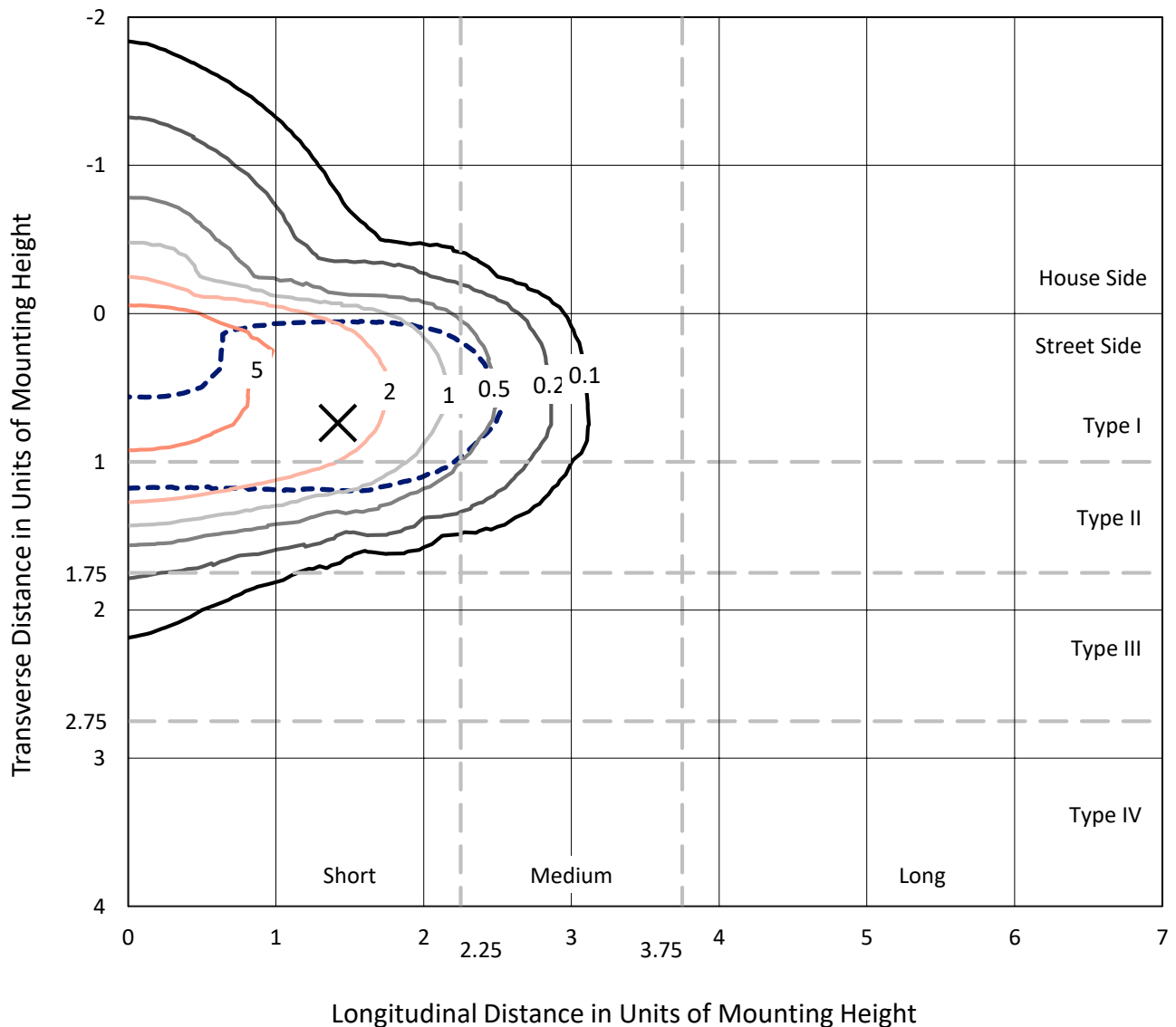
Input Watts (W): 124  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P196017  
 CATALOG NUMBER: NAV-AF-03-D-UNV-AFL-800

### Iso-Footcandle Lines of Horizontal Illumination

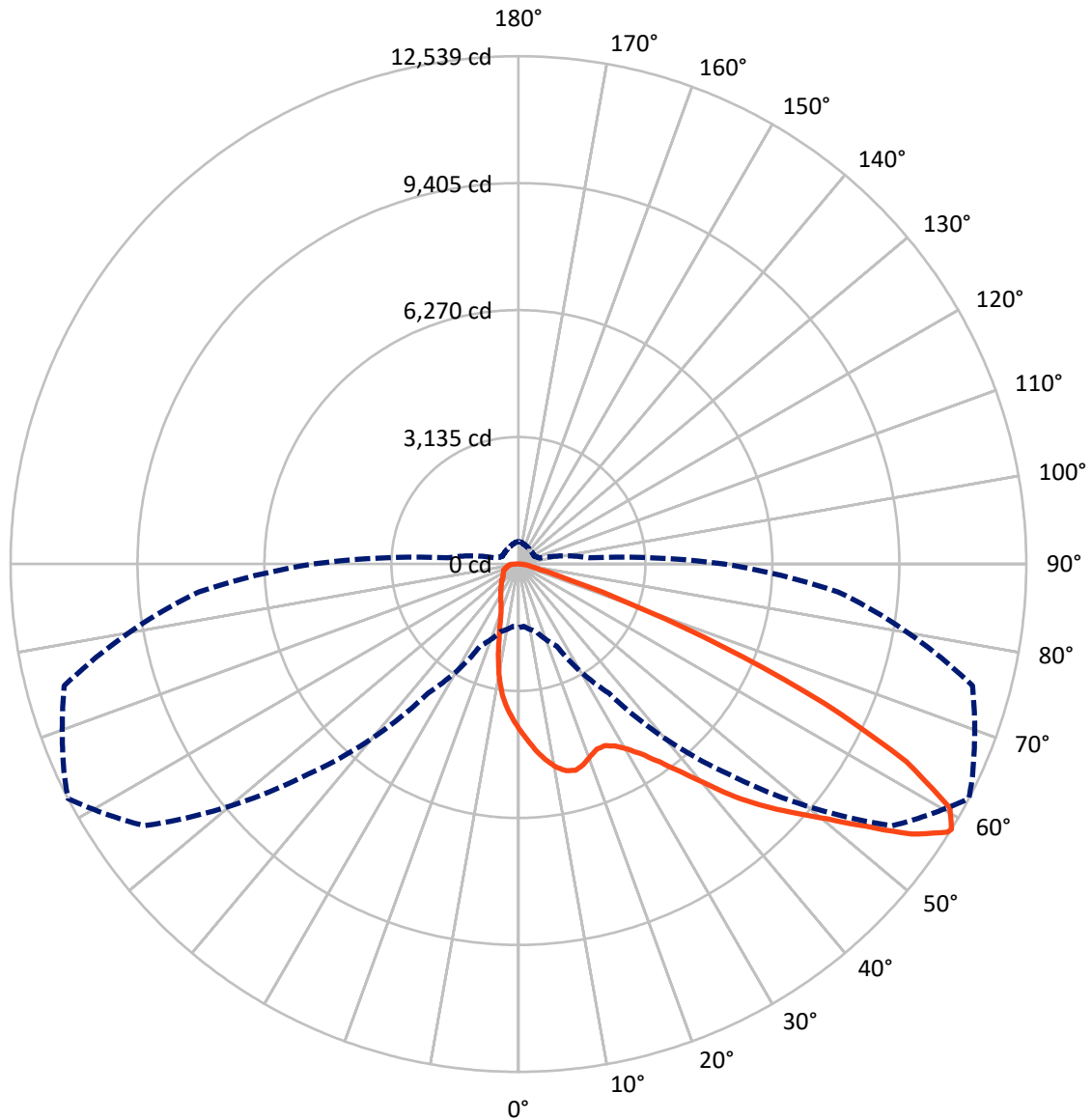
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.7 fc  
 Type II - Short - Full Cutoff

REPORT NUMBER: P196017  
CATALOG NUMBER: NAV-AF-03-D-UNV-AFL-800

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P196017

CATALOG NUMBER: NAV-AF-03-D-UNV-AFL-800

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2355.1	0.0	2355.1
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	12984.0	0.0	12984.0
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	15339.1	0.0	15339.1
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	366.1	2.4
10°-20°	923.9	6.0
20°-30°	1497.2	9.8
30°-40°	2390.4	15.6
40°-50°	3477.0	22.7
50°-60°	3638.3	23.7
60°-70°	2218.1	14.5
70°-80°	620.3	4.0
80°-90°	207.9	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°	15339.1	100.0
0°-180°	15339.1	100.0

**Coefficient of Utilization**



REPORT NUMBER: P196017

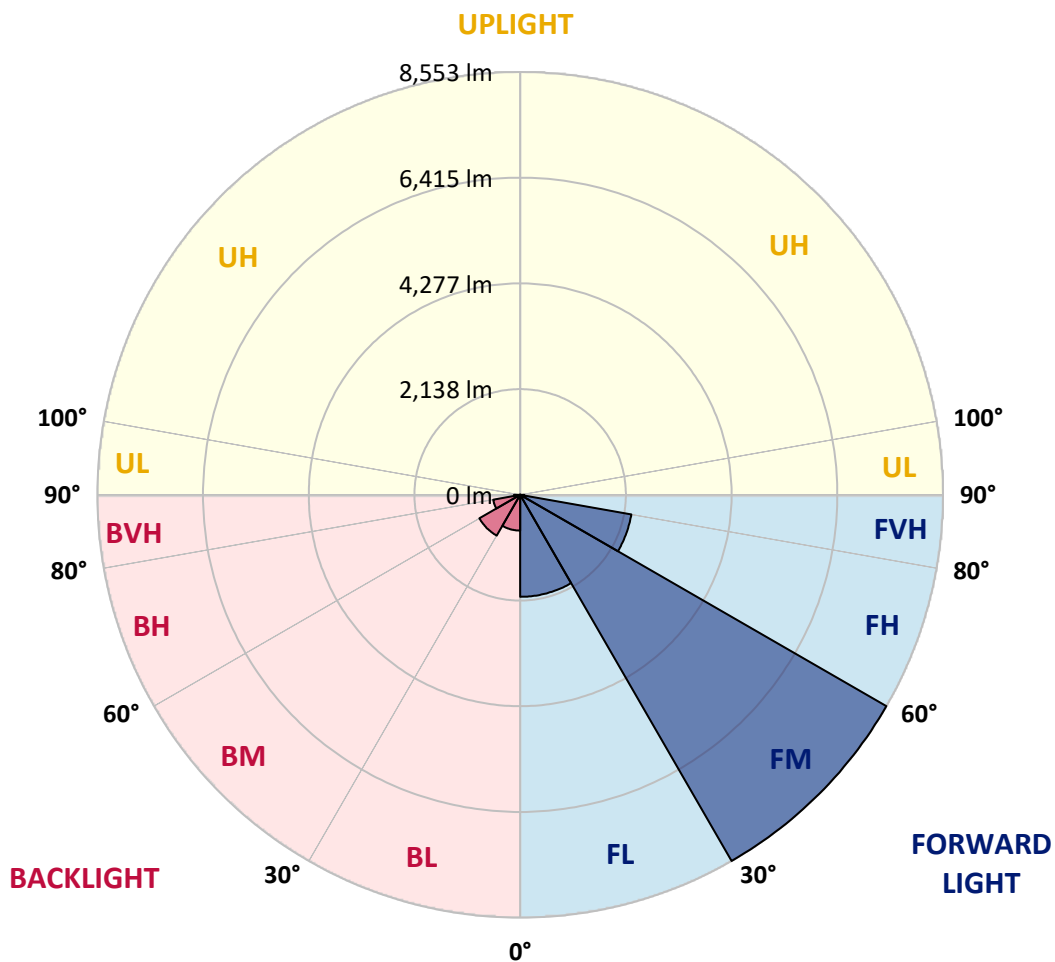
CATALOG NUMBER: NAV-AF-03-D-UNV-AFL-800

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2063.2	13.5			
FM	(30°-60°)	8553.3	55.8			
FH	(60°-80°)	2283.9	14.9			G2/5000
FVH	(80°-90°)	83.6	0.5			G1/100
BL	(0°-30°)	724.0	4.7	B2/1000		
BM	(30°-60°)	952.4	6.2	B1/1000		
BH	(60°-80°)	554.4	3.6	B2/1000		G2/1000
BVH	(80°-90°)	124.3	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





REPORT NUMBER: P196017

CATALOG NUMBER: NAV-AF-03-D-UNV-AFL-800

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	4095.5	4095.5	4095.5	4095.5	4095.5	4095.5	4095.5	4095.5	4095.5	4095.5	4095.5
2.5°	4648.6	4645.7	4606.4	4580.6	4549.9	4478.9	4408.0	4355.2	4328.4	4225.8	4126.2
5°	5033.0	5021.6	4999.5	4971.6	4931.4	4842.2	4730.1	4633.3	4594.9	4412.8	4229.7
7.5°	4829.8	4848.0	4916.1	4992.8	5073.3	5079.1	4999.5	4884.5	4842.2	4598.8	4330.4
10°	4267.0	4259.4	4344.7	4494.2	4759.8	5022.5	5153.8	5097.3	5053.2	4775.1	4431.0
12.5°	4096.4	4094.5	4108.9	4147.2	4314.0	4674.5	5114.5	5237.2	5221.9	4962.1	4538.3
15°	4148.2	4150.1	4149.1	4153.9	4199.9	4371.6	4895.0	5284.3	5332.1	5147.1	4647.7
17.5°	4314.0	4307.3	4286.3	4263.2	4269.9	4331.3	4658.2	5203.6	5347.5	5312.0	4739.6
20°	4570.0	4570.0	4513.5	4449.2	4407.0	4420.5	4559.5	5065.7	5276.6	5452.0	4808.7
22.5°	4891.1	4895.9	4812.6	4695.5	4599.7	4563.3	4616.0	4963.1	5190.2	5581.4	4870.1
25°	5290.0	5289.0	5167.2	4999.5	4848.0	4760.8	4759.8	4967.9	5163.4	5732.8	4934.3
27.5°	5783.7	5738.7	5596.8	5358.0	5144.2	5011.0	4950.6	5088.7	5220.0	5918.9	5020.5
30°	6340.7	6294.6	6108.7	5801.9	5512.4	5317.8	5218.1	5297.7	5392.6	6155.6	5151.0
32.5°	6891.9	6902.5	6683.9	6337.8	5965.8	5691.6	5544.0	5592.9	5659.1	6445.2	5327.3
35°	7699.1	7698.1	7412.5	6980.1	6538.2	6158.5	5971.6	5997.5	6057.8	6853.6	5574.7
37.5°	8301.1	8291.5	8107.5	7725.0	7227.5	6772.0	6501.7	6505.6	6557.3	7366.5	5900.6
40°	8362.5	8360.6	8359.7	8305.0	7964.7	7535.2	7196.8	7126.8	7147.9	7911.0	6246.8
42.5°	7893.7	7963.7	8165.0	8473.7	8568.6	8343.3	8023.1	7866.9	7820.9	8536.0	6613.0
45°	7225.5	7261.0	7613.8	8307.9	8872.6	9102.6	8861.9	8532.2	8453.6	9143.9	6911.1
47.5°	6914.9	6899.6	7103.8	7860.1	8842.8	9706.6	9723.9	9183.1	9049.8	9668.2	7165.2
50°	6248.6	6228.5	6486.4	7201.6	8518.7	10006.6	10608.7	9892.5	9646.1	10166.7	7395.2
52.5°	4920.9	4901.7	5247.7	6169.1	7794.0	9894.5	11354.5	10763.0	10343.2	10647.0	7609.9
55°	3201.9	3203.9	3533.7	4483.7	6307.1	9240.6	11704.4	11768.6	11298.0	11127.4	7783.4
57.5°	1763.0	1746.7	1981.6	2565.5	4338.9	7755.7	11413.0	12493.4	12248.0	11539.5	7909.0
58°	1567.5	1548.2	1729.4	2232.8	3890.3	7336.7	11266.4	12539.4	12369.7	11607.6	7927.3
60°	1116.9	1084.2	1056.5	1258.7	2241.4	5290.0	10288.4	12241.3	12405.2	11743.8	7910.0
62.5°	941.4	904.0	804.3	796.7	1055.5	2587.5	8136.2	10750.6	11209.8	11430.2	7632.0
65°	874.3	836.9	705.6	658.6	716.2	1116.9	5031.1	8301.1	8914.7	10340.3	6932.1
67.5°	826.3	782.3	641.4	580.0	591.5	668.2	2135.0	5429.0	6140.3	8063.4	5561.3
70°	783.3	734.4	590.5	519.6	510.0	508.1	834.0	2834.8	3520.3	5276.6	3725.4
72.5°	734.4	686.4	545.4	469.7	448.7	412.2	501.3	1171.5	1605.8	2586.5	1707.4
75°	663.4	624.1	495.6	428.5	392.1	334.6	370.0	561.8	692.1	990.3	792.8
77.5°	583.8	552.2	444.8	394.0	345.1	273.2	282.8	380.6	427.6	557.9	459.2
80°	413.2	424.7	388.3	347.1	303.9	220.4	217.6	279.0	306.8	374.8	308.7
82.5°	284.7	293.4	316.4	274.2	245.4	171.7	160.1	193.6	208.1	226.3	149.6
85°	203.3	197.5	219.5	196.5	180.2	109.3	102.6	122.8	131.3	138.1	71.9
87.5°	123.7	122.8	126.5	101.6	93.9	55.6	50.8	58.5	62.3	60.4	34.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196017

CATALOG NUMBER: NAV-AF-03-D-UNV-AFL-800

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4095.5	4095.5	4095.5	4095.5	4095.5	4095.5	4095.5	4095.5	4095.5	4095.5	4095.5
2.5°	4088.7	4041.8	3939.2	3856.7	3767.6	3699.5	3631.5	3593.1	3551.0	3526.9	3524.1
5°	4133.8	4037.9	3819.4	3616.1	3407.1	3219.2	3035.2	2899.0	2787.8	2724.5	2720.7
7.5°	4183.7	4033.2	3695.7	3343.8	2971.9	2601.9	2274.9	2043.9	1895.3	1826.3	1821.5
10°	4222.0	4013.0	3545.1	2997.8	2408.2	1919.3	1622.1	1485.9	1440.9	1429.4	1427.4
12.5°	4268.1	3998.6	3355.4	2553.9	1840.7	1461.0	1370.9	1362.3	1371.9	1377.6	1378.5
15°	4311.1	3970.8	3099.4	2062.1	1440.9	1305.7	1307.6	1325.8	1345.0	1353.7	1354.6
17.5°	4331.3	3902.8	2762.9	1625.0	1260.7	1235.7	1257.8	1281.8	1299.0	1305.7	1305.7
20°	4331.3	3793.5	2372.7	1316.2	1166.7	1171.5	1198.4	1216.6	1220.4	1214.7	1211.8
22.5°	4313.1	3658.3	1993.1	1148.5	1090.1	1108.3	1129.3	1116.9	1071.7	1037.3	1030.6
25°	4296.8	3498.2	1627.8	1045.9	1023.0	1046.9	1038.2	952.9	883.9	848.4	842.7
27.5°	4269.9	3304.5	1323.0	961.6	957.7	976.9	891.6	809.2	774.6	755.4	751.6
30°	4263.2	3094.6	1107.2	886.8	893.4	866.6	768.8	742.0	734.4	723.8	719.0
32.5°	4285.2	2884.6	972.1	825.4	832.2	743.9	706.6	710.3	709.4	696.0	691.2
35°	4345.7	2680.4	885.8	769.8	750.6	666.2	671.1	682.6	682.6	666.2	660.5
37.5°	4451.2	2490.7	831.1	722.8	656.7	626.0	638.5	653.8	653.8	642.3	637.5
40°	4563.3	2305.6	789.9	685.5	597.3	598.2	610.7	622.2	627.0	628.9	625.0
42.5°	4664.9	2113.8	745.8	645.2	570.4	577.1	582.9	591.5	611.6	625.0	623.2
45°	4724.3	1921.2	698.0	595.4	552.2	555.1	553.1	568.5	592.5	612.5	612.5
47.5°	4779.0	1763.0	658.6	545.4	534.0	534.0	528.3	543.6	565.6	589.6	591.5
50°	4830.8	1660.5	630.9	507.2	511.0	508.1	506.2	520.6	550.2	579.0	583.8
52.5°	4883.5	1625.9	605.9	479.4	487.0	483.1	485.1	505.2	538.8	568.5	573.3
55°	4957.3	1648.0	580.0	460.1	464.0	463.1	470.7	493.7	523.4	553.1	555.1
57.5°	5048.4	1728.5	557.9	445.8	441.9	447.7	460.1	482.2	511.0	546.5	549.3
58°	5066.6	1747.7	554.1	441.9	437.1	445.8	458.3	479.4	509.0	546.5	549.3
60°	5094.4	1815.7	544.5	434.2	420.8	436.2	451.5	472.6	505.2	551.3	557.0
62.5°	4960.2	1829.1	541.7	425.6	403.6	422.8	441.0	464.9	501.3	567.5	580.0
65°	4495.3	1691.1	521.5	411.2	389.2	412.2	431.4	459.2	512.9	616.4	622.2
67.5°	3608.5	1404.4	472.6	389.2	373.0	399.8	423.7	459.2	517.7	624.1	627.9
70°	2481.1	1055.5	411.2	365.3	353.7	384.4	420.8	469.7	501.3	590.5	579.0
72.5°	1296.1	734.4	360.5	337.5	330.7	371.0	448.7	459.2	482.2	551.3	539.7
75°	652.8	499.5	317.3	305.9	304.8	366.2	502.4	441.9	462.1	518.6	543.6
77.5°	385.3	391.2	282.8	276.1	280.9	357.6	503.3	424.7	439.1	477.4	504.2
80°	263.6	323.0	255.9	254.0	257.9	328.8	464.0	403.6	412.2	451.5	480.3
82.5°	148.6	178.3	224.3	236.8	234.9	269.3	400.7	367.1	377.7	534.0	564.7
85°	71.9	107.4	187.9	221.5	200.4	179.2	325.9	325.9	328.8	382.5	387.3
87.5°	26.8	48.0	126.5	175.4	139.9	107.4	221.5	231.1	257.0	264.6	270.4
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)