

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: P196989

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-8030-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196989  
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-8030-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16614 lumens  
Efficiency: N/A  
Efficacy: 87.0 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

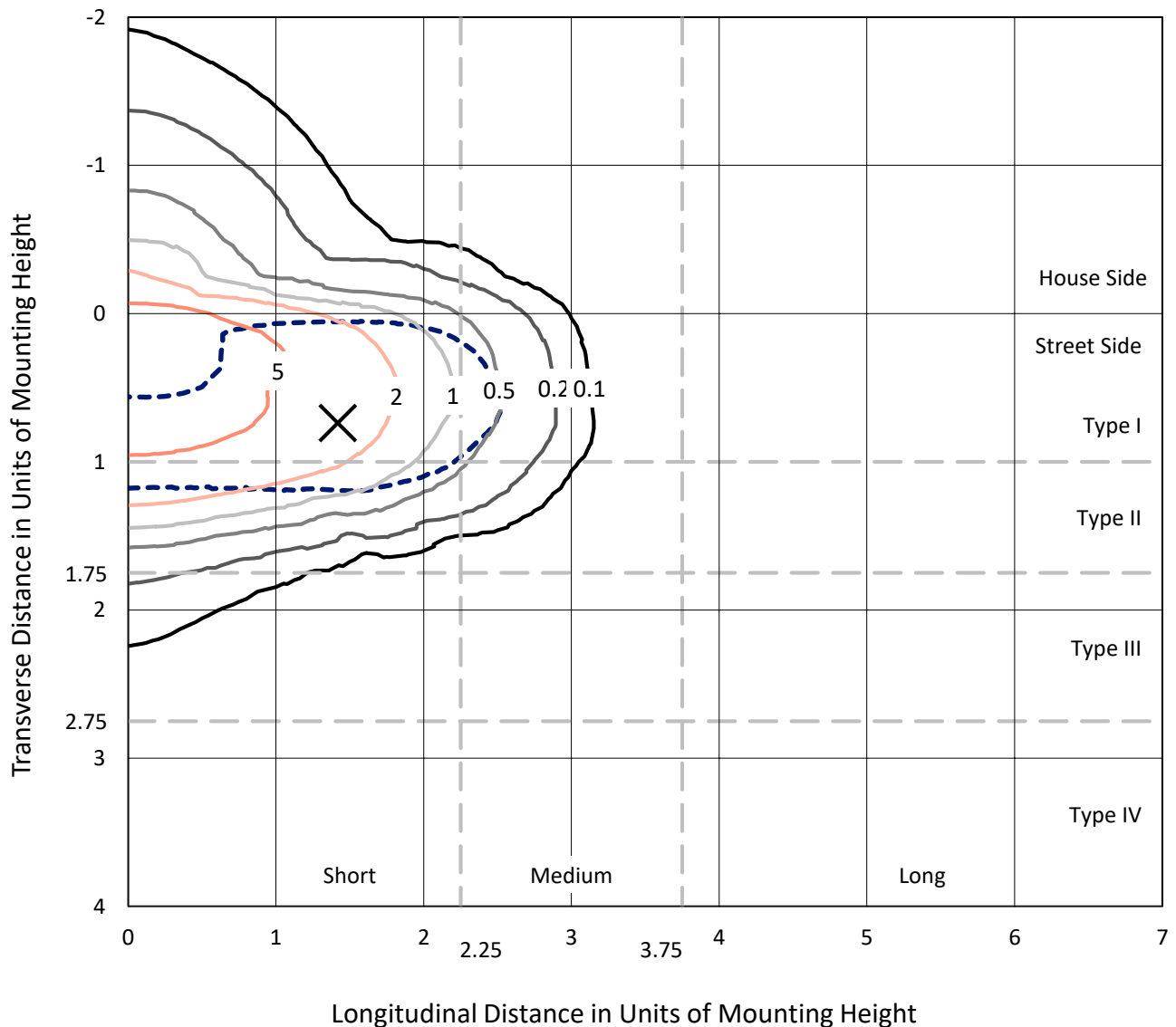
Input Watts (W): 191  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

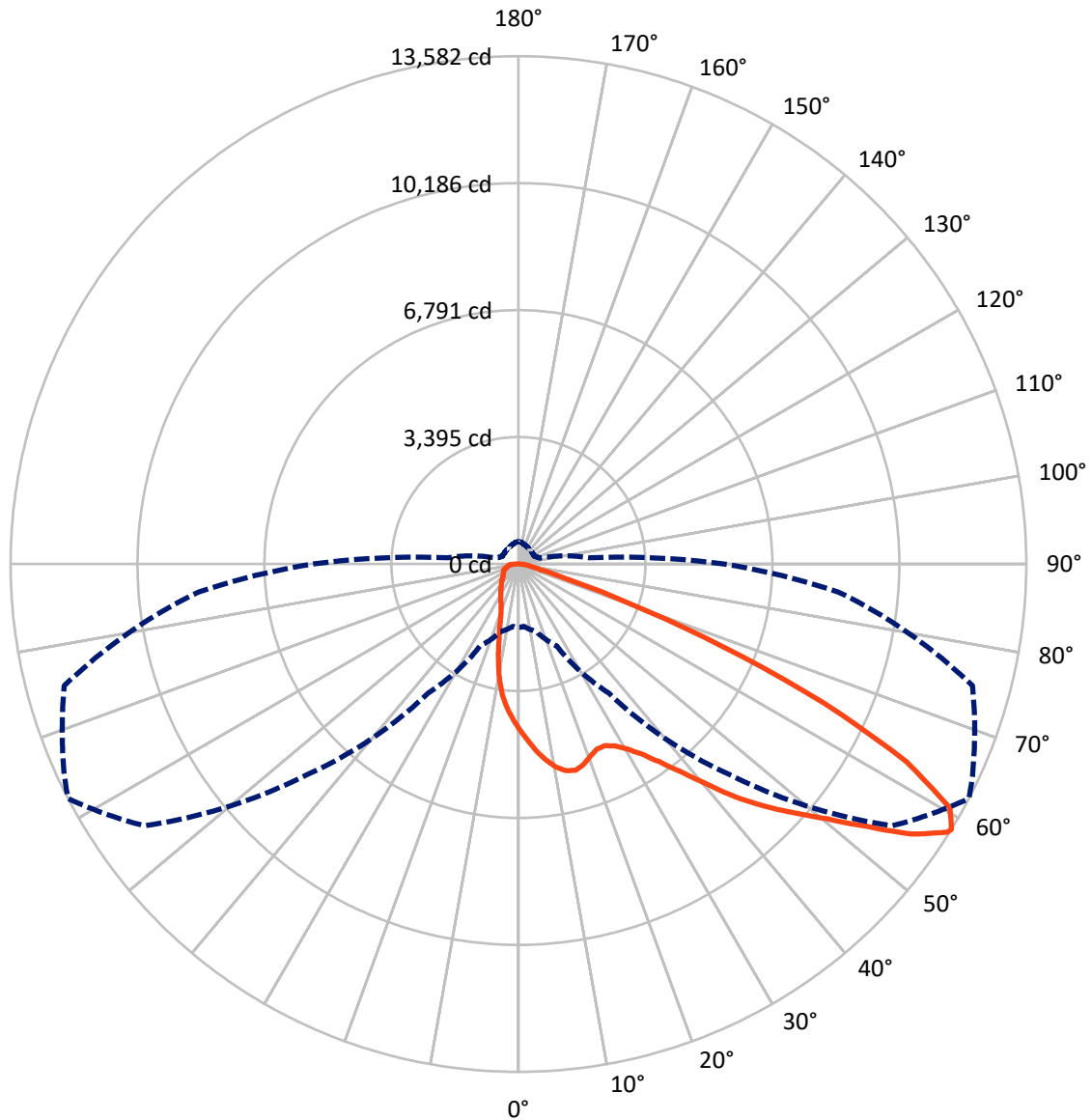
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.3 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	2550.9	0.0	2550.9
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	14063.1	0.0	14063.1
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	16614.0	0.0	16614.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	396.5	2.4
10°-20°	1000.6	6.0
20°-30°	1621.7	9.8
30°-40°	2589.1	15.6
40°-50°	3765.9	22.7
50°-60°	3940.7	23.7
60°-70°	2402.4	14.5
70°-80°	671.8	4.0
80°-90°	225.2	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°	16614.0	100.0
0°-180°	16614.0	100.0



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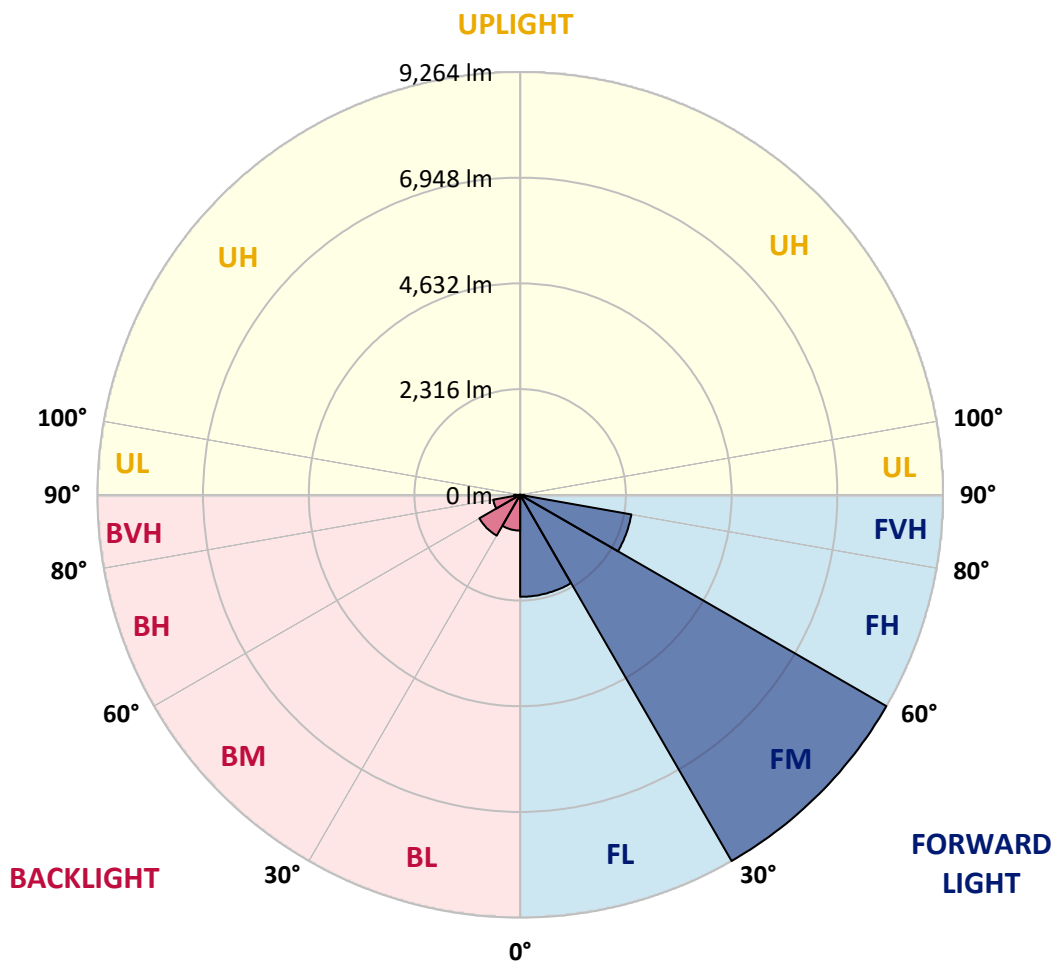
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2234.6	13.5			
FM (30°-60°)	9264.2	55.8			
FH (60°-80°)	2473.7	14.9			G2/5000
FVH (80°-90°)	90.6	0.5			G1/100
BL (0°-30°)	784.1	4.7	B2/1000		
BM (30°-60°)	1031.6	6.2	B2/2500		
BH (60°-80°)	600.5	3.6	B2/1000		G2/1000
BVH (80°-90°)	134.6	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°	4435.8	4435.8	4435.8	4435.8	4435.8	4435.8	4435.8	4435.8	4435.8	4435.8	4435.8
2.5°	5035.0	5031.8	4989.3	4961.2	4928.0	4851.2	4774.3	4717.2	4688.1	4577.0	4469.1
5°	5451.3	5438.9	5415.0	5384.9	5341.3	5244.7	5123.2	5018.3	4976.8	4779.5	4581.2
7.5°	5231.2	5250.9	5324.7	5407.7	5494.9	5501.2	5415.0	5290.4	5244.7	4981.0	4690.2
10°	4621.7	4613.4	4705.8	4867.8	5155.4	5439.9	5582.2	5520.9	5473.1	5172.0	4799.3
12.5°	4436.9	4434.8	4450.4	4491.9	4672.6	5063.0	5539.6	5672.5	5655.9	5374.5	4915.5
15°	4492.9	4495.0	4494.0	4499.2	4549.0	4734.9	5301.8	5723.4	5775.3	5574.9	5033.9
17.5°	4672.6	4665.3	4642.5	4617.5	4624.8	4691.3	5045.3	5636.2	5791.9	5753.5	5133.6
20°	4949.8	4949.8	4888.5	4819.0	4773.3	4787.8	4938.4	5486.6	5715.1	5905.1	5208.4
22.5°	5297.7	5302.9	5212.5	5085.8	4982.0	4942.5	4999.7	5375.5	5621.6	6045.3	5274.8
25°	5729.6	5728.6	5596.7	5415.0	5250.9	5156.4	5155.4	5380.7	5592.6	6209.3	5344.4
27.5°	6264.4	6215.6	6061.9	5803.3	5571.8	5427.5	5362.0	5511.6	5653.8	6410.8	5437.8
30°	6867.6	6817.8	6616.4	6284.1	5970.5	5759.7	5651.7	5737.9	5840.7	6667.2	5579.1
32.5°	7464.7	7476.1	7239.4	6864.5	6461.6	6164.7	6004.8	6057.7	6129.4	6980.8	5770.1
35°	8339.0	8337.9	8028.5	7560.2	7081.5	6670.4	6467.9	6495.9	6561.3	7423.2	6038.0
37.5°	8991.1	8980.7	8781.3	8367.0	7828.1	7334.9	7042.1	7046.2	7102.3	7978.7	6391.0
40°	9057.5	9055.4	9054.4	8995.2	8626.6	8161.4	7794.9	7719.1	7741.9	8568.5	6765.9
42.5°	8549.8	8625.6	8843.6	9178.0	9280.8	9036.8	8689.9	8520.7	8470.9	9245.5	7162.5
45°	7826.0	7864.5	8246.6	8998.3	9609.9	9859.1	9598.5	9241.3	9156.2	9903.8	7485.5
47.5°	7489.6	7473.0	7694.2	8513.4	9577.7	10513.3	10532.0	9946.3	9802.0	10471.8	7760.6
50°	6768.0	6746.2	7025.5	7800.1	9226.8	10838.3	11490.4	10714.7	10447.9	11011.7	8009.8
52.5°	5329.8	5309.1	5683.9	6681.8	8441.8	10716.8	12298.2	11657.5	11202.8	11531.9	8242.4
55°	3468.1	3470.2	3827.4	4856.4	6831.3	10008.7	12677.2	12746.8	12236.9	12052.1	8430.4
57.5°	1909.5	1891.9	2146.3	2778.6	4699.6	8400.2	12361.6	13531.8	13266.0	12498.6	8566.4
58°	1697.7	1676.9	1873.2	2418.3	4213.6	7946.5	12202.7	13581.6	13397.8	12572.3	8586.1
60°	1209.7	1174.4	1144.3	1363.4	2427.7	5729.6	11143.6	13258.7	13436.2	12719.8	8567.4
62.5°	1019.7	979.2	871.2	862.9	1143.2	2802.5	8812.5	11644.1	12141.4	12380.2	8266.3
65°	947.0	906.5	764.2	713.3	775.6	1209.7	5449.3	8991.1	9655.6	11199.6	7508.3
67.5°	895.1	847.3	694.7	628.2	640.7	723.7	2312.4	5880.2	6650.6	8733.6	6023.5
70°	848.3	795.4	639.6	562.8	552.4	550.3	903.4	3070.4	3812.8	5715.1	4035.0
72.5°	795.4	743.5	590.8	508.8	485.9	446.5	543.1	1268.9	1739.2	2801.5	1849.3
75°	718.5	676.0	536.8	464.1	424.7	362.4	400.8	608.5	749.7	1072.6	858.7
77.5°	632.4	598.1	481.8	426.8	373.8	295.9	306.3	412.2	463.1	604.3	497.4
80°	447.5	460.0	420.5	375.9	329.2	238.8	235.7	302.2	332.3	406.0	334.3
82.5°	308.4	317.7	342.7	297.0	265.8	185.9	173.4	209.7	225.3	245.1	162.0
85°	220.1	213.9	237.8	212.9	195.2	118.4	111.1	132.9	142.3	149.5	77.9
87.5°	133.9	132.9	137.1	110.1	101.8	60.2	55.0	63.3	67.5	65.4	37.4
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°	4435.8	4435.8	4435.8	4435.8	4435.8	4435.8	4435.8	4435.8	4435.8	4435.8	4435.8
2.5°	4428.6	4377.7	4266.6	4177.3	4080.7	4007.0	3933.3	3891.7	3846.0	3820.1	3817.0
5°	4477.4	4373.5	4136.8	3916.7	3690.3	3486.8	3287.4	3140.0	3019.5	2951.0	2946.8
7.5°	4531.4	4368.3	4002.8	3621.8	3218.9	2818.1	2464.0	2213.8	2052.8	1978.1	1972.9
10°	4572.9	4346.5	3839.8	3246.9	2608.3	2078.8	1756.9	1609.4	1560.6	1548.2	1546.1
12.5°	4622.7	4331.0	3634.2	2766.2	1993.6	1582.4	1484.8	1475.5	1485.9	1492.1	1493.1
15°	4669.5	4300.8	3357.0	2233.5	1560.6	1414.2	1416.3	1436.0	1456.8	1466.1	1467.2
17.5°	4691.3	4227.1	2992.5	1760.0	1365.4	1338.4	1362.3	1388.3	1407.0	1414.2	1414.2
20°	4691.3	4108.7	2569.9	1425.7	1263.7	1268.9	1297.9	1317.7	1321.8	1315.6	1312.5
22.5°	4671.5	3962.3	2158.7	1243.9	1180.6	1200.3	1223.2	1209.7	1160.9	1123.5	1116.2
25°	4653.9	3788.9	1763.1	1132.8	1107.9	1133.9	1124.5	1032.1	957.4	918.9	912.7
27.5°	4624.8	3579.2	1432.9	1041.5	1037.3	1058.1	965.7	876.4	839.0	818.2	814.1
30°	4617.5	3351.8	1199.3	960.5	967.7	938.7	832.8	803.7	795.4	784.0	778.8
32.5°	4641.4	3124.4	1052.9	894.0	901.3	805.8	765.3	769.4	768.4	753.8	748.6
35°	4706.8	2903.2	959.4	833.8	813.0	721.7	726.8	739.3	739.3	721.7	715.4
37.5°	4821.1	2697.6	900.2	782.9	711.3	678.0	691.5	708.2	708.2	695.7	690.5
40°	4942.5	2497.2	855.6	742.4	646.9	647.9	661.4	673.9	679.1	681.2	677.0
42.5°	5052.6	2289.6	807.8	698.8	617.8	625.1	631.3	640.7	662.5	677.0	674.9
45°	5117.0	2080.9	755.9	644.8	598.1	601.2	599.1	615.7	641.7	663.5	663.5
47.5°	5176.2	1909.5	713.3	590.8	578.4	578.4	572.1	588.7	612.6	638.6	640.7
50°	5232.2	1798.4	683.2	549.3	553.4	550.3	548.2	563.8	596.0	627.2	632.4
52.5°	5289.4	1761.0	656.2	519.2	527.5	523.3	525.4	547.2	583.6	615.7	620.9
55°	5369.3	1784.9	628.2	498.4	502.6	501.5	509.8	534.7	566.9	599.1	601.2
57.5°	5467.9	1872.1	604.3	482.8	478.7	484.9	498.4	522.3	553.4	591.9	595.0
58°	5487.7	1892.9	600.2	478.7	473.5	482.8	496.3	519.2	551.4	591.9	595.0
60°	5517.8	1966.6	589.8	470.4	455.8	472.4	489.1	511.9	547.2	597.1	603.3
62.5°	5372.4	1981.2	586.7	461.0	437.1	457.9	477.6	503.6	543.1	614.7	628.2
65°	4868.8	1831.6	564.9	445.5	421.6	446.5	467.3	497.4	555.5	667.7	673.9
67.5°	3908.3	1521.2	511.9	421.6	403.9	433.0	459.0	497.4	560.7	676.0	680.1
70°	2687.2	1143.2	445.5	395.6	383.2	416.4	455.8	508.8	543.1	639.6	627.2
72.5°	1403.8	795.4	390.4	365.5	358.2	401.8	485.9	497.4	522.3	597.1	584.6
75°	707.1	541.0	343.7	331.2	330.2	396.6	544.1	478.7	500.5	561.7	588.7
77.5°	417.4	423.6	306.3	299.0	304.2	387.3	545.1	460.0	475.6	517.1	546.2
80°	285.5	349.9	277.2	275.2	279.3	356.2	502.6	437.1	446.5	489.1	520.2
82.5°	160.9	193.1	243.0	256.5	254.4	291.8	434.0	397.7	409.1	578.4	611.6
85°	77.9	116.3	203.5	239.9	217.0	194.2	353.0	353.0	356.2	414.3	419.5
87.5°	29.1	51.9	137.1	190.0	151.6	116.3	239.9	250.2	278.3	286.6	292.8
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)