

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: P196014

Luminaire Tested: **NAV-AF-06-D-UNV-AFL-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196014
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-06-D-UNV-AFL-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24876.1 lumens
Efficiency: N/A
Efficacy: 128.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B3 - U0 - G2

Input Watts (W): 193
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

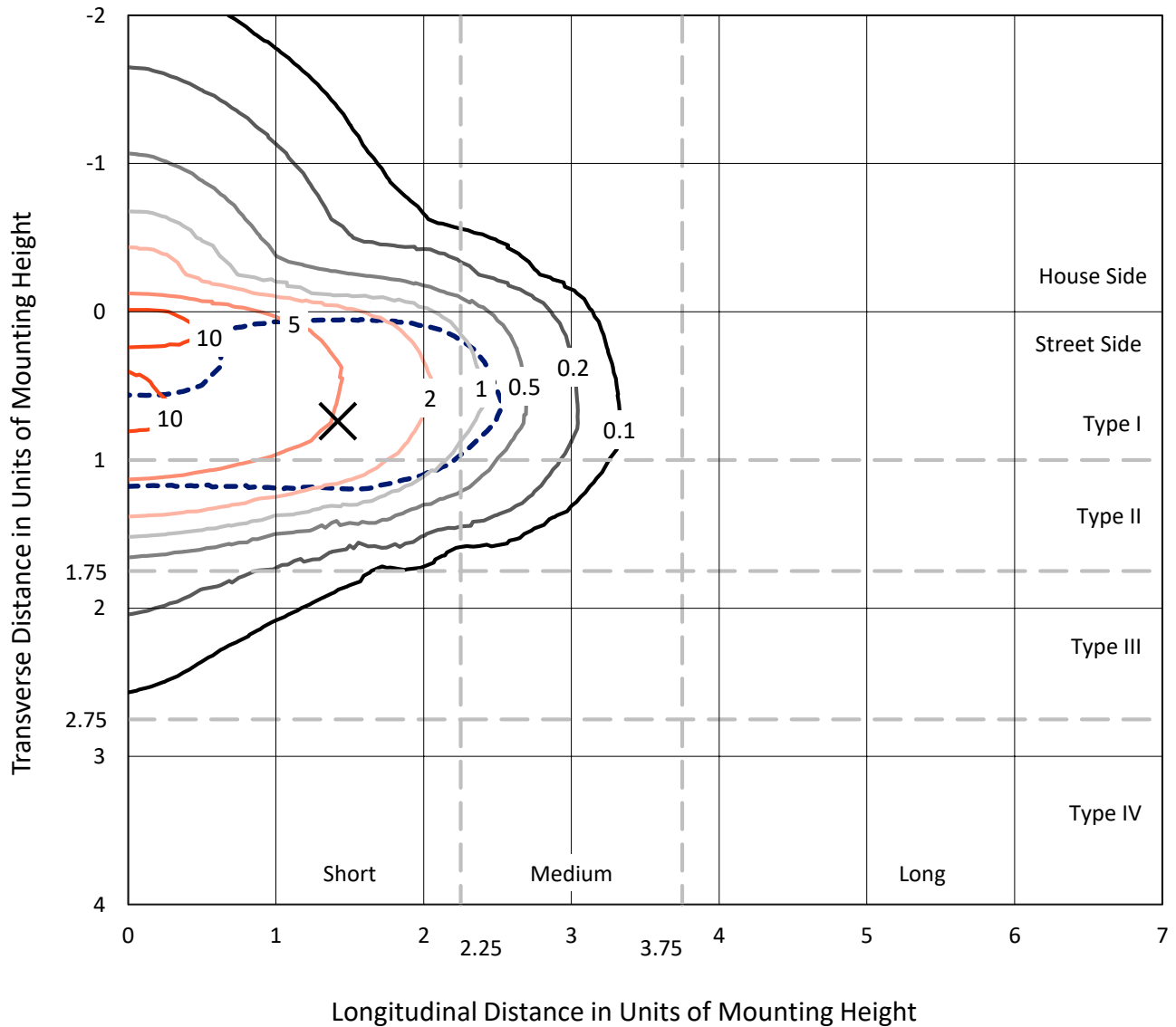


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Iso-Footcandle Lines of Horizontal Illumination

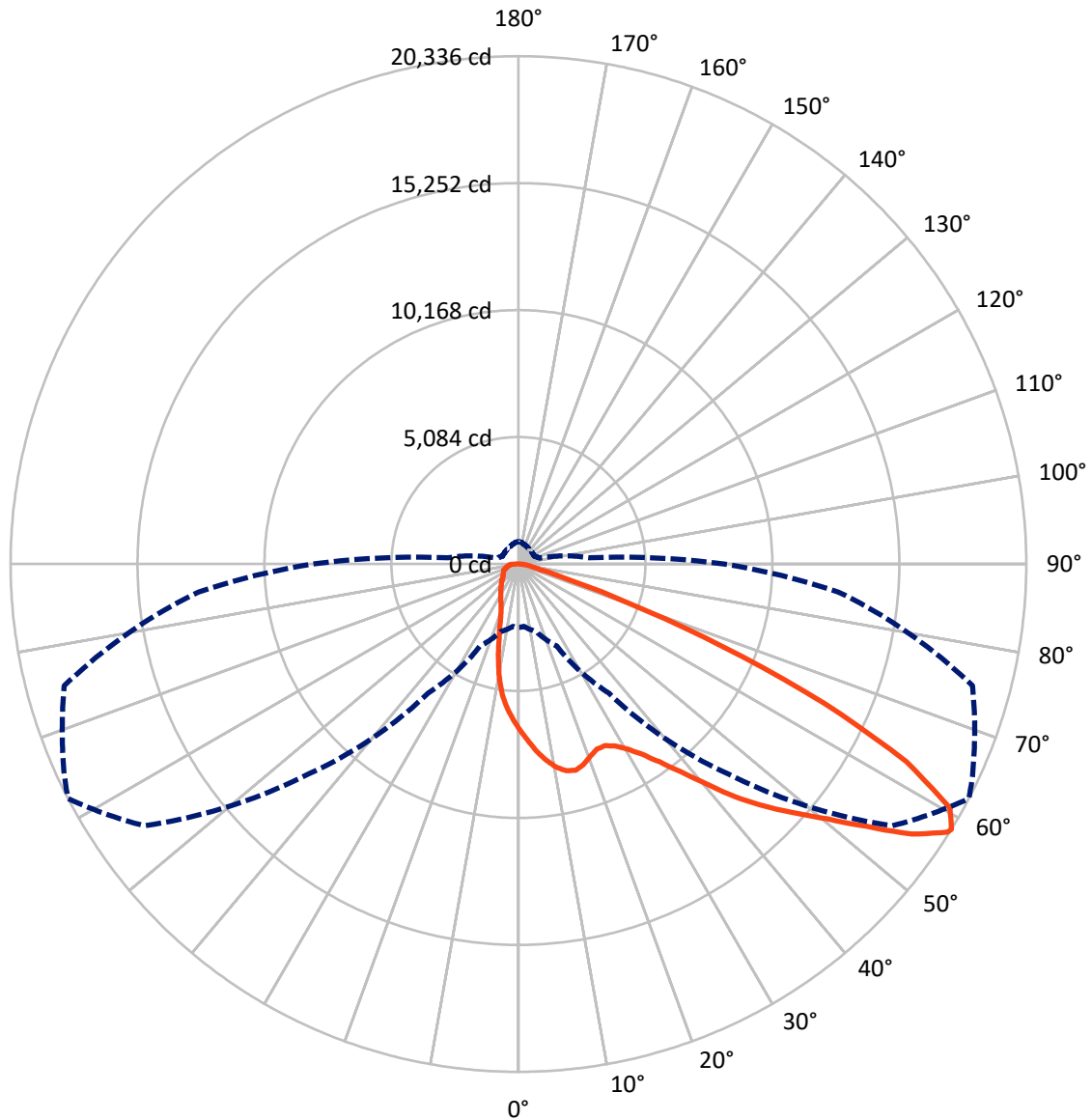
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 12.4 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
House Side	Lumens	3819.4	0.0	3819.4
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	21056.7	0.0	21056.7
	% Fixture	84.6	0.0	84.6
Total	Lumens	24876.1	0.0	24876.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	593.7	2.4
10°-20°	1498.3	6.0
20°-30°	2428.1	9.8
30°-40°	3876.7	15.6
40°-50°	5638.7	22.7
50°-60°	5900.4	23.7
60°-70°	3597.1	14.5
70°-80°	1005.9	4.0
80°-90°	337.2	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°	24876.1	100.0
0°-180°	24876.1	100.0



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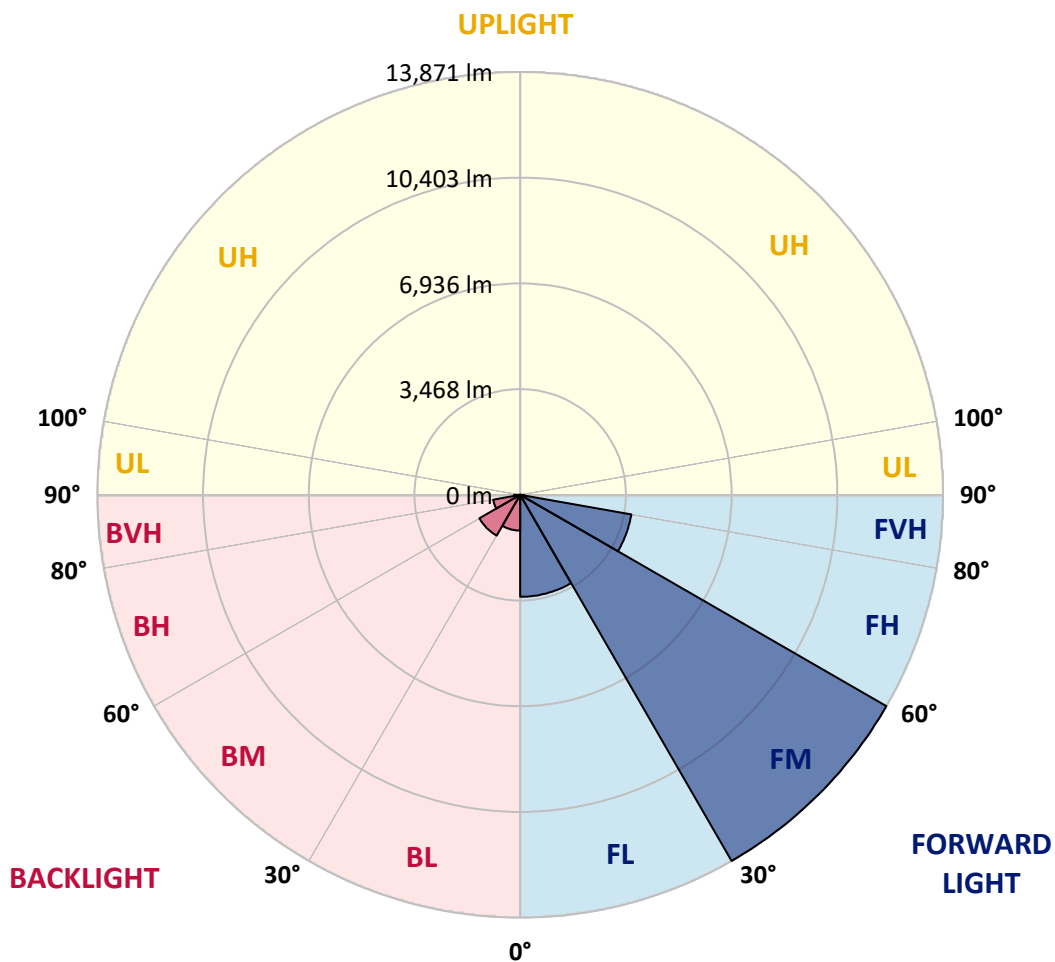
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3345.9	13.5			
FM	(30°-60°)	13871.2	55.8			
FH	(60°-80°)	3703.9	14.9			G2/5000
FVH	(80°-90°)	135.6	0.5			G2/225
BL	(0°-30°)	1174.1	4.7	B3/2500		
BM	(30°-60°)	1544.6	6.2	B2/2500		
BH	(60°-80°)	899.2	3.6	B2/1000		G2/1000
BVH	(80°-90°)	201.6	0.8			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-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°	6641.7	6641.7	6641.7	6641.7	6641.7	6641.7	6641.7	6641.7	6641.7	6641.7	6641.7
2.5°	7538.8	7534.1	7470.4	7428.5	7378.6	7263.7	7148.6	7063.1	7019.6	6853.2	6691.5
5°	8162.2	8143.6	8107.9	8062.8	7997.4	7852.9	7671.0	7514.0	7451.8	7156.4	6859.4
7.5°	7832.6	7862.2	7972.6	8097.0	8227.6	8236.9	8107.9	7921.3	7852.9	7458.0	7022.7
10°	6920.1	6907.6	7046.0	7288.5	7719.2	8145.1	8358.1	8266.5	8195.0	7744.0	7185.9
12.5°	6643.3	6640.2	6663.5	6725.7	6996.3	7580.8	8294.4	8493.5	8468.6	8047.2	7360.0
15°	6727.2	6730.4	6728.9	6736.6	6811.2	7089.6	7938.4	8569.6	8647.3	8347.3	7537.3
17.5°	6996.3	6985.3	6951.2	6913.8	6924.8	7024.2	7554.4	8439.0	8672.3	8614.7	7686.6
20°	7411.4	7411.4	7319.6	7215.5	7147.1	7168.8	7394.2	8215.1	8557.2	8841.7	7798.5
22.5°	7932.2	7939.9	7804.7	7615.1	7459.6	7400.4	7486.0	8048.8	8417.2	9051.6	7898.0
25°	8579.0	8577.3	8379.9	8107.9	7862.2	7720.7	7719.2	8056.6	8373.7	9297.2	8002.1
27.5°	9379.6	9306.5	9076.4	8689.4	8342.6	8126.5	8028.5	8252.5	8465.4	9598.9	8142.1
30°	10282.9	10208.3	9906.7	9409.2	8939.7	8624.0	8462.4	8591.4	8745.3	9982.9	8353.5
32.5°	11176.9	11193.9	10839.5	10278.2	9675.0	9230.4	8990.9	9070.2	9177.5	10452.4	8639.5
35°	12485.9	12484.4	12021.1	11319.9	10603.2	9987.5	9684.4	9726.3	9824.3	11114.7	9040.7
37.5°	13462.3	13446.8	13148.3	12528.0	11721.1	10982.5	10544.1	10550.3	10634.3	11946.4	9569.3
40°	13561.8	13558.7	13557.2	13468.6	12916.6	12220.1	11671.3	11557.8	11592.0	12829.5	10130.6
42.5°	12801.5	12915.1	13241.6	13742.1	13896.1	13530.7	13011.4	12758.0	12683.4	13843.2	10724.4
45°	11717.9	11775.5	12347.6	13473.2	14388.9	14762.1	14371.8	13837.0	13709.5	14828.9	11208.0
47.5°	11214.2	11189.3	11520.5	12747.1	14340.7	15741.6	15769.5	14892.6	14676.6	15679.4	11620.0
50°	10133.7	10101.0	10519.2	11679.0	13815.3	16228.2	17204.5	16043.1	15643.6	16487.8	11993.1
52.5°	7980.3	7949.2	8510.5	10004.7	12639.9	16046.2	18414.1	17454.8	16773.8	17266.7	12341.4
55°	5192.8	5195.9	5730.7	7271.4	10228.5	14985.9	18981.6	19085.7	18322.4	18045.7	12622.8
57.5°	2859.1	2832.7	3213.6	4160.4	7036.7	12577.7	18509.0	20261.1	19863.0	18714.2	12826.5
58°	2541.9	2510.8	2804.7	3620.9	6309.0	11898.2	18271.0	20335.8	20060.6	18824.5	12855.9
60°	1811.2	1758.4	1713.3	2041.3	3635.0	8579.0	16685.2	19852.2	20118.1	19045.3	12828.0
62.5°	1526.8	1466.1	1304.4	1292.0	1711.7	4196.1	13194.9	17434.7	18179.4	18536.9	12377.1
65°	1417.9	1357.3	1144.3	1068.1	1161.4	1811.2	8159.2	13462.3	14457.4	16769.2	11242.1
67.5°	1340.2	1268.7	1040.1	940.6	959.2	1083.6	3462.4	8804.3	9958.0	13076.8	9018.9
70°	1270.2	1190.9	957.7	842.7	827.2	824.0	1352.6	4597.3	5708.9	8557.2	6041.6
72.5°	1190.9	1113.2	884.6	761.8	727.6	668.5	813.1	1899.8	2604.1	4194.6	2768.9
75°	1075.8	1012.1	803.8	695.0	635.9	542.6	600.2	911.0	1122.5	1606.0	1285.7
77.5°	946.8	895.5	721.4	639.0	559.7	443.1	458.7	617.2	693.4	904.8	744.7
80°	670.1	688.8	629.6	562.8	492.9	357.6	352.9	452.5	497.5	607.9	500.6
82.5°	461.8	475.8	513.0	444.7	398.0	278.3	259.6	314.0	337.4	366.9	242.5
85°	329.6	320.3	356.0	318.8	292.3	177.3	166.3	199.0	213.0	223.9	116.6
87.5°	200.6	199.0	205.2	164.8	152.3	90.2	82.4	94.8	101.1	97.9	56.0
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°	6641.7	6641.7	6641.7	6641.7	6641.7	6641.7	6641.7	6641.7	6641.7	6641.7	6641.7
2.5°	6630.9	6554.7	6388.3	6254.6	6110.1	5999.7	5889.2	5827.1	5758.7	5719.8	5715.1
5°	6703.9	6548.5	6194.0	5864.4	5525.5	5220.7	4922.2	4701.5	4521.1	4418.5	4412.3
7.5°	6784.8	6540.7	5993.5	5422.9	4819.6	4219.5	3689.4	3314.7	3073.7	2961.7	2954.0
10°	6847.0	6508.0	5749.4	4861.6	3905.4	3112.5	2630.6	2409.8	2336.7	2318.1	2314.9
12.5°	6921.6	6484.7	5441.5	4141.7	2985.1	2369.4	2223.3	2209.3	2224.8	2234.1	2235.7
15°	6991.6	6439.7	5026.4	3344.2	2336.7	2117.5	2120.7	2150.1	2181.2	2195.3	2196.8
17.5°	7024.2	6329.3	4480.7	2635.2	2044.5	2004.1	2039.8	2078.6	2106.7	2117.5	2117.5
20°	7024.2	6152.0	3847.9	2134.6	1892.0	1899.8	1943.4	1973.0	1979.2	1969.8	1965.2
22.5°	6994.6	5932.8	3232.2	1862.6	1767.8	1797.2	1831.5	1811.2	1738.2	1682.2	1671.3
25°	6968.2	5673.2	2639.9	1696.2	1658.9	1697.8	1683.8	1545.4	1433.5	1376.0	1366.6
27.5°	6924.8	5359.1	2145.5	1559.4	1553.1	1584.2	1445.8	1312.1	1256.2	1225.1	1218.9
30°	6913.8	5018.6	1795.7	1438.1	1449.0	1405.4	1246.9	1203.4	1190.9	1173.8	1166.1
32.5°	6949.6	4678.2	1576.5	1338.6	1349.5	1206.5	1145.8	1152.0	1150.5	1128.7	1120.9
35°	7047.5	4347.0	1436.5	1248.4	1217.3	1080.5	1088.3	1106.9	1106.9	1080.5	1071.2
37.5°	7218.6	4039.1	1347.9	1172.3	1065.0	1015.3	1035.4	1060.3	1060.3	1041.7	1033.9
40°	7400.4	3739.1	1281.0	1111.6	968.6	970.2	990.3	1009.0	1016.8	1019.9	1013.6
42.5°	7565.2	3428.1	1209.5	1046.4	925.1	935.9	945.3	959.2	992.0	1013.6	1010.6
45°	7661.7	3115.7	1131.8	965.5	895.5	900.2	897.0	922.0	960.9	993.5	993.5
47.5°	7750.3	2859.1	1068.1	884.6	865.9	865.9	856.6	881.5	917.3	956.2	959.2
50°	7834.3	2692.8	1023.1	822.5	828.7	824.0	820.9	844.2	892.4	939.1	946.8
52.5°	7919.8	2636.8	982.5	777.3	789.8	783.6	786.6	819.4	873.7	922.0	929.8
55°	8039.5	2672.6	940.6	746.2	752.5	750.9	763.3	800.7	848.8	897.0	900.2
57.5°	8187.2	2803.2	904.8	722.9	716.7	726.1	746.2	782.0	828.7	886.2	890.9
58°	8216.6	2834.3	898.7	716.7	708.9	722.9	743.2	777.3	825.5	886.2	890.9
60°	8261.8	2944.7	883.1	704.3	682.5	707.4	732.2	766.5	819.4	894.0	903.3
62.5°	8044.1	2966.5	878.4	690.3	654.6	685.6	715.1	754.0	813.1	920.3	940.6
65°	7290.1	2742.5	845.8	667.0	631.3	668.5	699.6	744.7	831.8	999.7	1009.0
67.5°	5852.0	2277.7	766.5	631.3	604.8	648.3	687.2	744.7	839.5	1012.1	1018.3
70°	4023.6	1711.7	667.0	592.4	573.7	623.5	682.5	761.8	813.1	957.7	939.1
72.5°	2102.0	1190.9	584.6	547.3	536.3	601.7	727.6	744.7	782.0	894.0	875.3
75°	1058.8	810.0	514.6	495.9	494.4	593.9	814.7	716.7	749.4	841.1	881.5
77.5°	625.0	634.3	458.7	447.7	455.5	579.9	816.2	688.8	712.1	774.3	817.7
80°	427.6	524.0	415.1	412.0	418.2	533.3	752.5	654.6	668.5	732.2	778.9
82.5°	241.0	289.2	363.8	384.0	380.9	436.9	649.9	595.5	612.5	865.9	915.7
85°	116.6	174.1	304.7	359.2	324.9	290.7	528.6	528.6	533.3	620.3	628.1
87.5°	43.6	77.7	205.2	284.5	227.0	174.1	359.2	374.7	416.6	429.1	438.4
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)