

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: P195544

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195544
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24998 lumens
Efficiency: N/A
Efficacy: 111.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B3 - U0 - G2

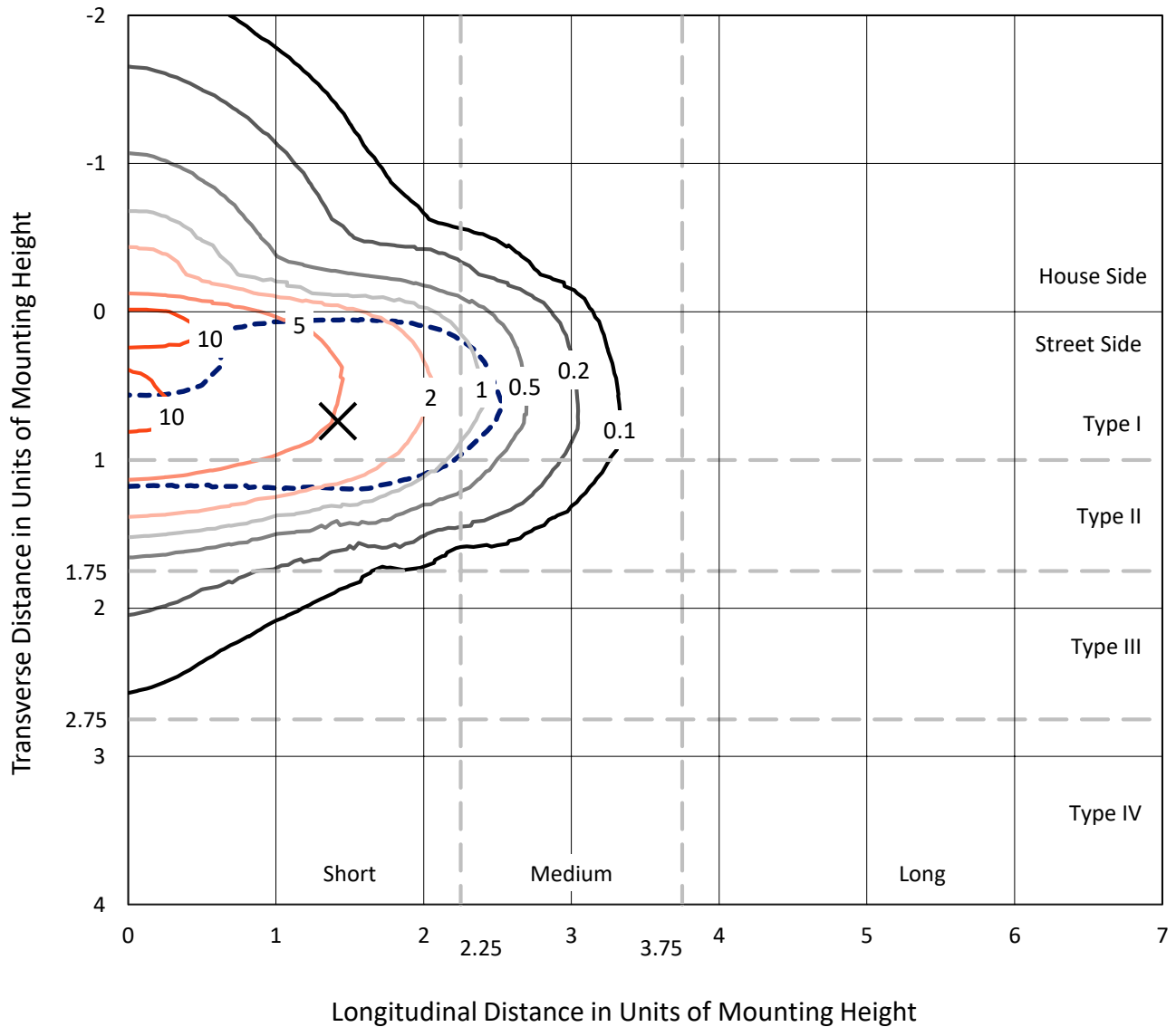
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

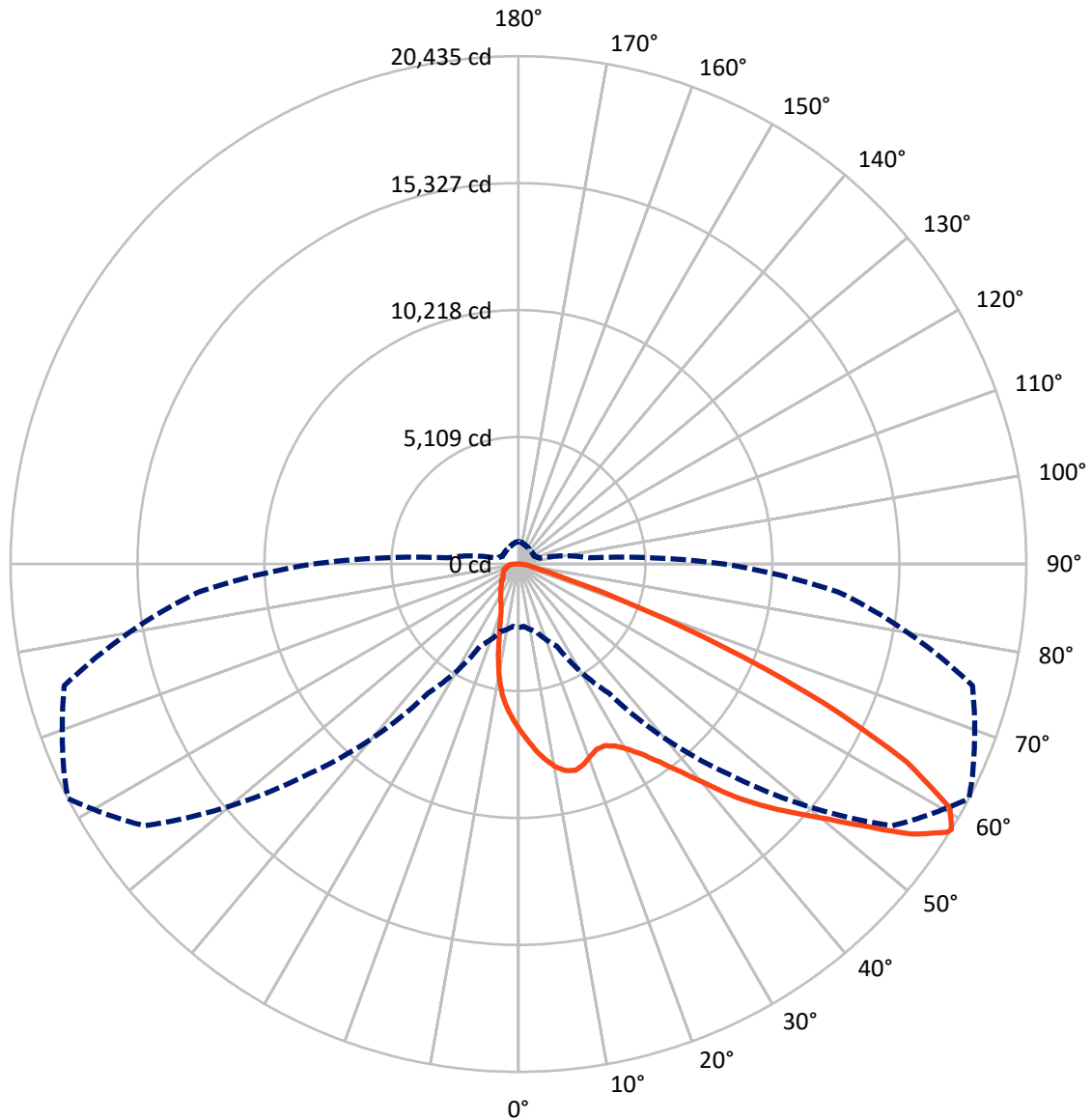
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 12.5 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	3838.1	0.0	3838.1
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	21159.9	0.0	21159.9
	% Fixture	84.6	0.0	84.6
Total	Lumens	24998.0	0.0	24998.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	596.6	2.4
10°-20°	1505.6	6.0
20°-30°	2440.0	9.8
30°-40°	3895.7	15.6
40°-50°	5666.4	22.7
50°-60°	5929.3	23.7
60°-70°	3614.7	14.5
70°-80°	1010.9	4.0
80°-90°	338.9	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°	24998.0	100.0
0°-180°	24998.0	100.0



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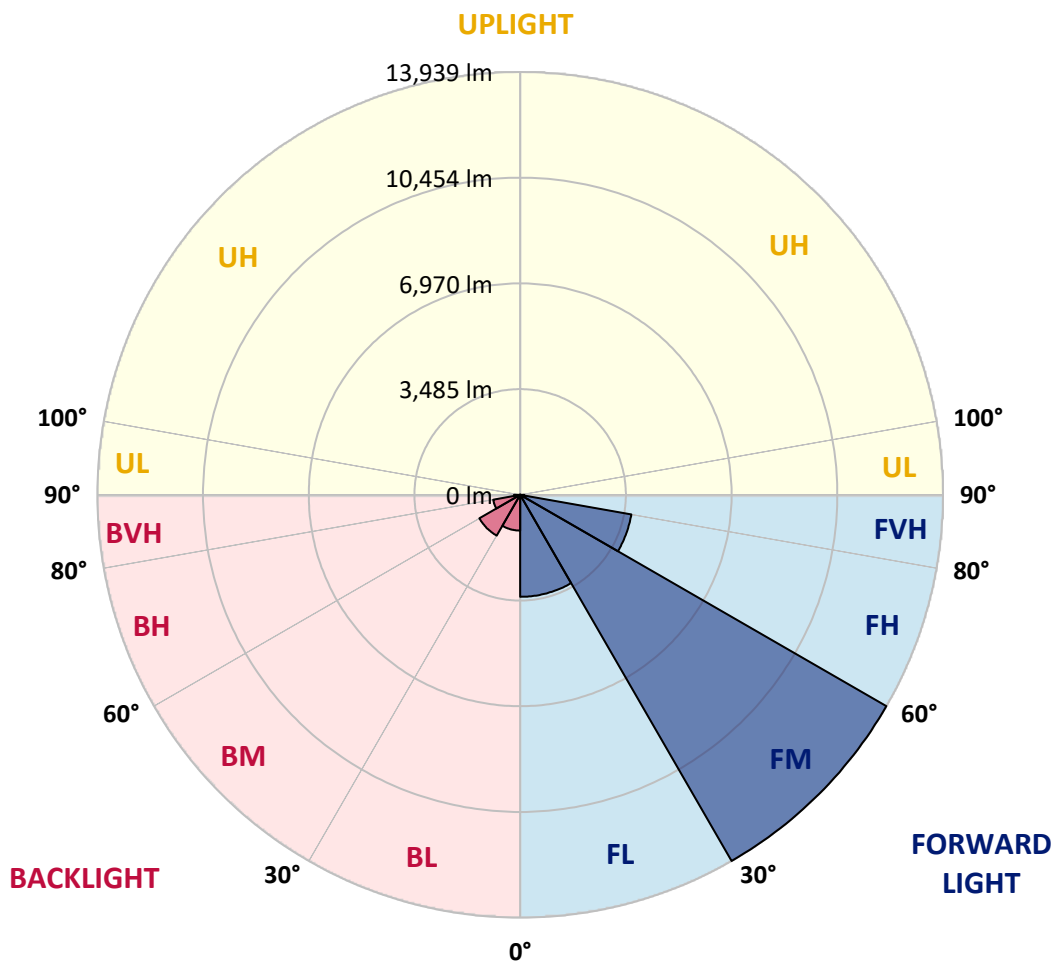
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3362.3	13.5			
FM	(30°-60°)	13939.2	55.8			
FH	(60°-80°)	3722.0	14.9			G2/5000
FVH	(80°-90°)	136.3	0.5			G2/225
BL	(0°-30°)	1179.9	4.7	B3/2500		
BM	(30°-60°)	1552.2	6.2	B2/2500		
BH	(60°-80°)	903.6	3.6	B2/1000		G2/1000
BVH	(80°-90°)	202.5	0.8			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	6674.3	6674.3	6674.3	6674.3	6674.3	6674.3	6674.3	6674.3	6674.3	6674.3	6674.3
2.5°	7575.8	7571.1	7507.0	7464.8	7414.8	7299.2	7183.6	7097.7	7053.9	6886.8	6724.3
5°	8202.3	8183.5	8147.6	8102.3	8036.7	7891.4	7708.6	7550.8	7488.3	7191.4	6893.0
7.5°	7871.1	7900.7	8011.7	8136.6	8267.9	8277.3	8147.6	7960.1	7891.4	7494.5	7057.1
10°	6954.0	6941.5	7080.5	7324.2	7757.0	8185.1	8399.1	8306.9	8235.1	7782.0	7221.1
12.5°	6675.9	6672.7	6696.2	6758.7	7030.5	7618.0	8335.1	8535.0	8510.0	8086.7	7396.1
15°	6760.2	6763.4	6761.8	6769.6	6844.6	7124.3	7977.3	8611.6	8689.7	8388.2	7574.2
17.5°	7030.5	7019.6	6985.2	6947.7	6958.6	7058.6	7591.4	8480.4	8714.7	8656.9	7724.2
20°	7447.7	7447.7	7355.5	7250.8	7182.1	7203.9	7430.5	8255.4	8599.1	8885.0	7836.7
22.5°	7971.0	7978.9	7842.9	7652.3	7496.1	7436.7	7522.7	8088.2	8458.5	9095.9	7936.7
25°	8621.0	8619.4	8421.0	8147.6	7900.7	7758.6	7757.0	8096.0	8414.7	9342.8	8041.3
27.5°	9425.6	9352.1	9120.9	8731.9	8383.5	8166.3	8067.9	8292.9	8506.9	9645.9	8182.0
30°	10333.3	10258.3	9955.2	9455.3	8983.4	8666.3	8503.8	8633.5	8788.1	10031.8	8394.4
32.5°	11231.6	11248.8	10892.6	10328.6	9722.4	9275.6	9035.0	9114.7	9222.5	10503.6	8681.9
35°	12547.1	12545.6	12080.0	11375.4	10655.1	10036.5	9731.8	9774.0	9872.4	11169.1	9085.0
37.5°	13528.3	13512.6	13212.7	12589.3	11778.5	11036.3	10595.8	10602.0	10686.4	12005.0	9616.2
40°	13628.3	13625.1	13623.6	13534.5	12979.9	12280.0	11728.5	11614.4	11648.8	12892.4	10180.2
42.5°	12864.3	12978.3	13306.4	13809.5	13964.2	13597.0	13075.2	12820.5	12745.5	13911.0	10777.0
45°	11775.3	11833.1	12408.1	13539.2	14459.4	14834.4	14442.2	13904.8	13776.7	14901.6	11262.9
47.5°	11269.1	11244.1	11576.9	12809.6	14411.0	15818.7	15846.8	14965.6	14748.5	15756.2	11676.9
50°	10183.3	10150.5	10570.8	11736.3	13882.9	16307.7	17288.8	16121.8	15720.2	16568.6	12051.9
52.5°	8019.5	7988.2	8552.2	10053.6	12701.8	16124.9	18504.3	17540.4	16856.0	17351.3	12401.8
55°	5218.2	5221.3	5758.8	7307.0	10278.6	15059.4	19074.6	19179.2	18412.1	18134.0	12684.6
57.5°	2873.1	2846.6	3229.3	4180.8	7071.1	12639.3	18599.6	20360.4	19960.4	18805.8	12889.3
58°	2554.4	2523.2	2818.5	3638.7	6340.0	11956.6	18360.6	20435.4	20158.8	18916.8	12919.0
60°	1820.1	1767.0	1721.7	2051.3	3652.7	8621.0	16767.0	19949.5	20216.6	19138.6	12890.8
62.5°	1534.2	1473.3	1310.8	1298.3	1720.1	4216.7	13259.6	17520.0	18268.4	18627.7	12437.8
65°	1424.9	1363.9	1149.9	1073.3	1167.1	1820.1	8199.1	13528.3	14528.2	16851.4	11297.3
67.5°	1346.7	1274.9	1045.2	945.2	964.0	1088.9	3479.3	8847.5	10006.8	13140.8	9063.1
70°	1276.4	1196.7	962.4	846.8	831.2	828.0	1359.2	4619.8	5736.9	8599.1	6071.2
72.5°	1196.7	1118.6	889.0	765.5	731.2	671.8	817.1	1909.2	2616.9	4215.2	2782.5
75°	1081.1	1017.1	807.7	698.4	639.0	545.3	603.1	915.5	1128.0	1613.9	1292.1
77.5°	951.5	899.9	724.9	642.1	562.4	445.3	460.9	620.2	696.8	909.3	748.4
80°	673.4	692.1	632.7	565.6	495.3	359.3	354.7	454.6	499.9	610.9	503.1
82.5°	464.0	478.1	515.6	446.8	400.0	279.7	260.9	315.6	339.0	368.7	243.7
85°	331.2	321.8	357.8	320.3	293.7	178.1	167.2	200.0	214.0	225.0	117.2
87.5°	201.5	200.0	206.2	165.6	153.1	90.6	82.8	95.3	101.6	98.4	56.2
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°	6674.3	6674.3	6674.3	6674.3	6674.3	6674.3	6674.3	6674.3	6674.3	6674.3	6674.3
2.5°	6663.4	6586.8	6419.6	6285.3	6140.0	6029.1	5918.1	5855.6	5786.9	5747.8	5743.1
5°	6736.8	6580.6	6224.3	5893.1	5552.5	5246.3	4946.4	4724.5	4543.3	4440.2	4433.9
7.5°	6818.0	6572.8	6022.8	5449.4	4843.2	4240.2	3707.4	3330.9	3088.7	2976.3	2968.4
10°	6880.5	6539.9	5777.5	4885.4	3924.6	3127.8	2643.5	2421.6	2348.2	2329.4	2326.3
12.5°	6955.5	6516.5	5468.2	4162.1	2999.7	2381.0	2234.1	2220.1	2235.7	2245.1	2246.6
15°	7025.8	6471.2	5051.0	3360.6	2348.2	2127.9	2131.0	2160.7	2192.0	2206.0	2207.6
17.5°	7058.6	6360.3	4502.7	2648.2	2054.5	2013.9	2049.8	2088.8	2117.0	2127.9	2127.9
20°	7058.6	6182.2	3866.8	2145.1	1901.4	1909.2	1952.9	1982.6	1988.9	1979.5	1974.8
22.5°	7029.0	5961.9	3248.1	1871.7	1776.4	1806.1	1840.4	1820.1	1746.7	1690.4	1679.5
25°	7002.4	5701.0	2652.8	1704.5	1667.0	1706.1	1692.0	1553.0	1440.5	1382.7	1373.3
27.5°	6958.6	5385.4	2156.0	1567.0	1560.8	1592.0	1453.0	1318.6	1262.4	1231.1	1224.9
30°	6947.7	5043.2	1804.5	1445.2	1456.1	1412.4	1253.0	1209.2	1196.7	1179.6	1171.8
32.5°	6983.6	4701.1	1584.2	1345.2	1356.1	1212.4	1151.4	1157.7	1156.1	1134.3	1126.4
35°	7082.1	4368.3	1443.6	1254.6	1223.3	1085.8	1093.6	1112.4	1112.4	1085.8	1076.4
37.5°	7253.9	4059.0	1354.5	1178.0	1070.2	1020.2	1040.5	1065.5	1065.5	1046.8	1039.0
40°	7436.7	3757.4	1287.4	1117.1	973.3	974.9	995.2	1014.0	1021.8	1024.9	1018.6
42.5°	7602.3	3445.0	1215.5	1051.5	929.6	940.5	949.9	964.0	996.8	1018.6	1015.5
45°	7699.2	3130.9	1137.4	970.2	899.9	904.6	901.5	926.5	965.5	998.3	998.3
47.5°	7788.2	2873.1	1073.3	889.0	870.2	870.2	860.8	885.8	921.8	960.8	964.0
50°	7872.6	2706.0	1028.0	826.5	832.7	828.0	824.9	848.3	896.8	943.7	951.5
52.5°	7958.5	2649.7	987.4	781.2	793.7	787.4	790.5	823.4	878.0	926.5	934.3
55°	8078.8	2685.7	945.2	749.9	756.2	754.6	767.1	804.6	853.0	901.5	904.6
57.5°	8227.3	2816.9	909.3	726.5	720.2	729.6	749.9	785.9	832.7	890.5	895.2
58°	8256.9	2848.1	903.0	720.2	712.4	726.5	746.8	781.2	829.6	890.5	895.2
60°	8302.3	2959.1	887.4	707.7	685.9	710.9	735.9	770.2	823.4	898.3	907.7
62.5°	8083.5	2980.9	882.7	693.7	657.7	689.0	718.7	757.7	817.1	924.9	945.2
65°	7325.8	2756.0	849.9	670.2	634.3	671.8	703.1	748.4	835.9	1004.6	1014.0
67.5°	5880.6	2288.8	770.2	634.3	607.7	651.5	690.6	748.4	843.7	1017.1	1023.3
70°	4043.3	1720.1	670.2	595.3	576.5	626.5	685.9	765.5	817.1	962.4	943.7
72.5°	2112.3	1196.7	587.4	549.9	539.0	604.6	731.2	748.4	785.9	898.3	879.6
75°	1064.0	814.0	517.1	498.4	496.8	596.8	818.7	720.2	753.0	845.2	885.8
77.5°	628.1	637.4	460.9	450.0	457.8	582.8	820.2	692.1	715.6	778.0	821.8
80°	429.6	526.5	417.1	414.0	420.3	535.9	756.2	657.7	671.8	735.9	782.7
82.5°	242.2	290.6	365.6	385.9	382.8	439.0	653.1	598.4	615.6	870.2	920.2
85°	117.2	175.0	306.2	360.9	326.5	292.2	531.2	531.2	535.9	623.4	631.2
87.5°	43.7	78.1	206.2	285.9	228.1	175.0	360.9	376.5	418.7	431.2	440.6
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)