

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: P270498

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270498
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-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23825.5 lumens
Efficiency: N/A
Efficacy: 92.3 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): 258
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

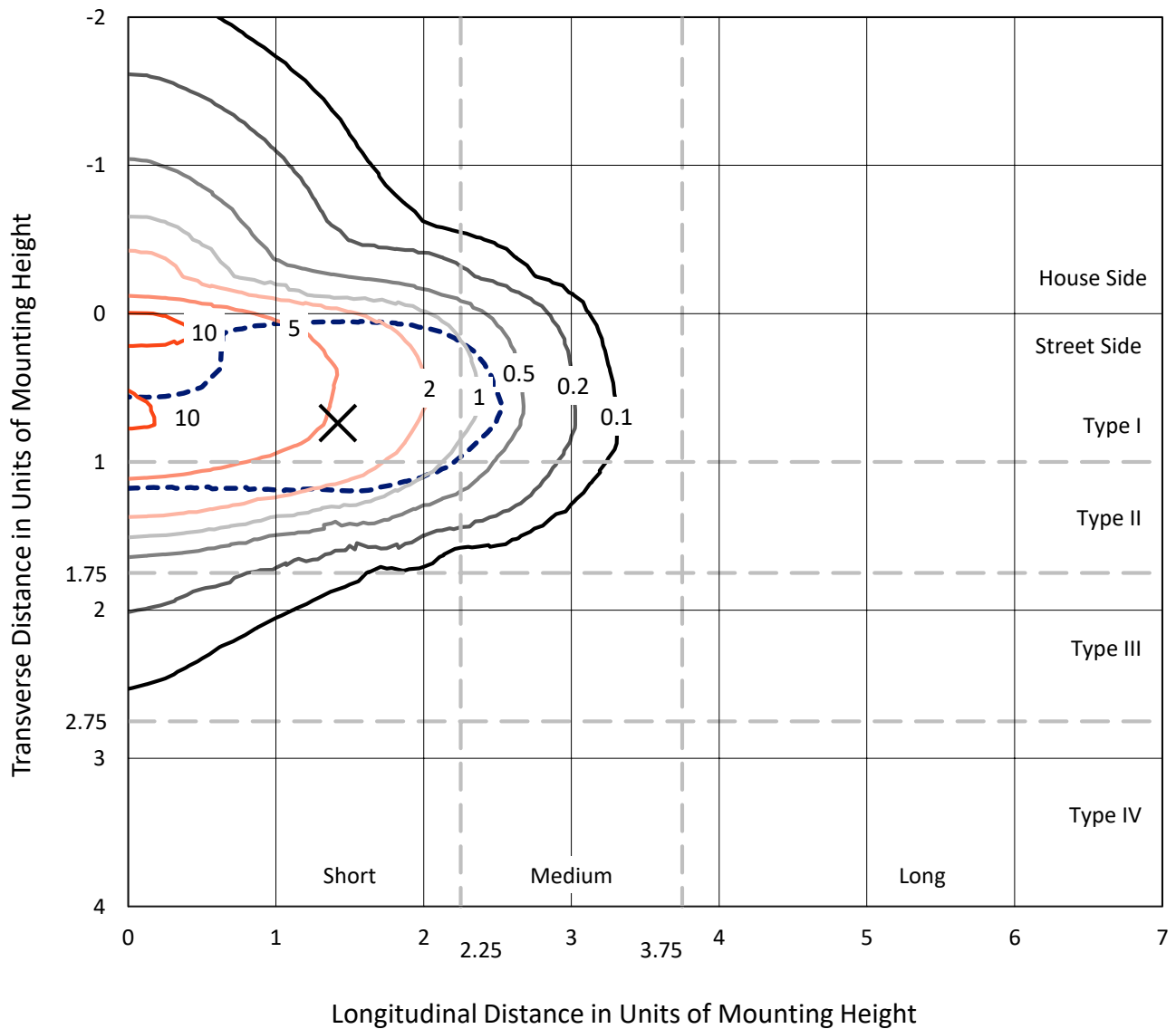


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Iso-Footcandle Lines of Horizontal Illumination

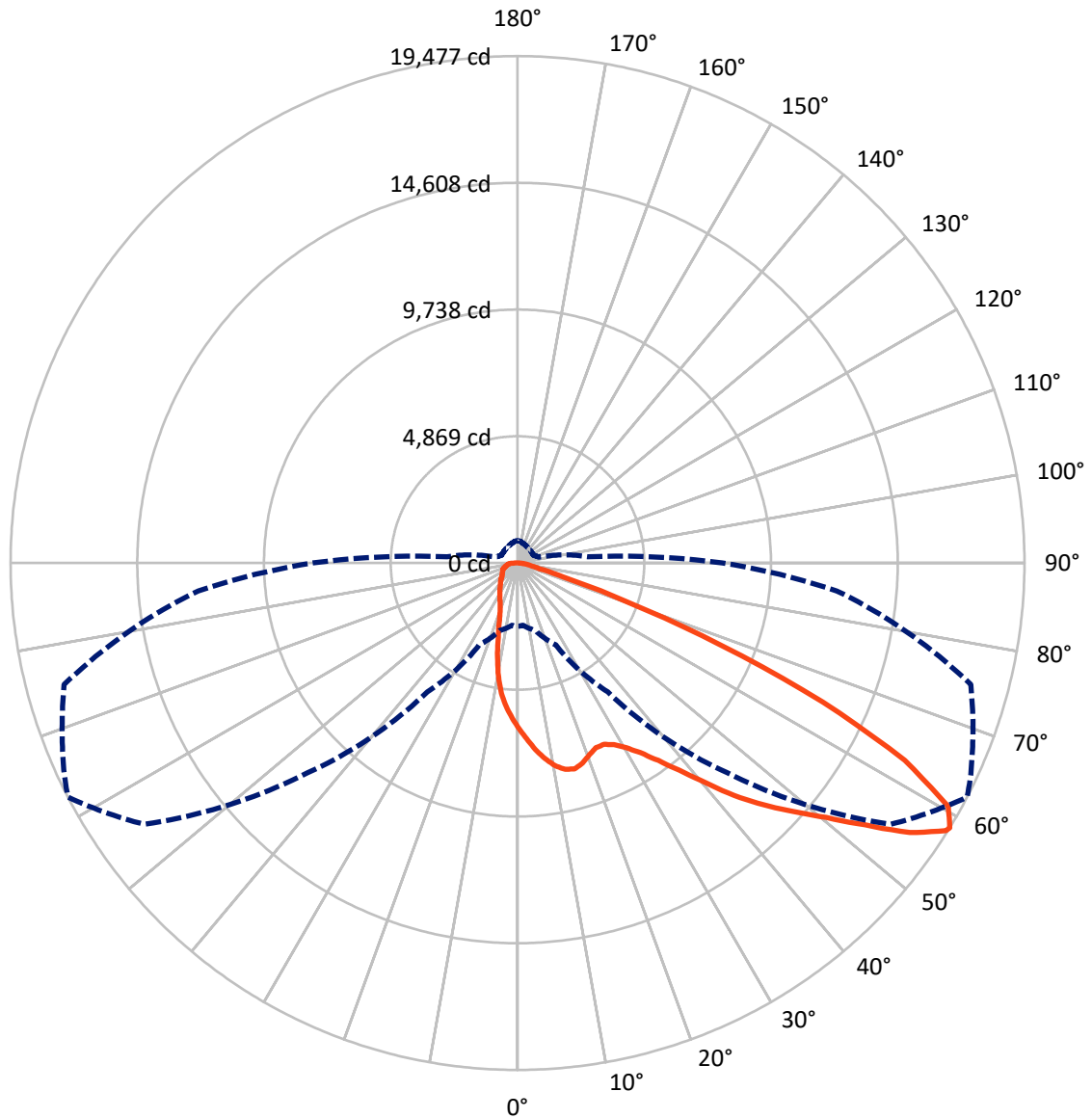
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.9 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	3658.1	0.0	3658.1
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	20167.3	0.0	20167.3
	% Fixture	84.6	0.0	84.6
Total	Lumens	23825.5	0.0	23825.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	568.6	2.4
10°-20°	1435.0	6.0
20°-30°	2325.5	9.8
30°-40°	3712.9	15.6
40°-50°	5400.6	22.7
50°-60°	5651.2	23.7
60°-70°	3445.2	14.5
70°-80°	963.5	4.0
80°-90°	323.0	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°	23825.5	100.0
0°-180°	23825.5	100.0

Coefficient of Utilization



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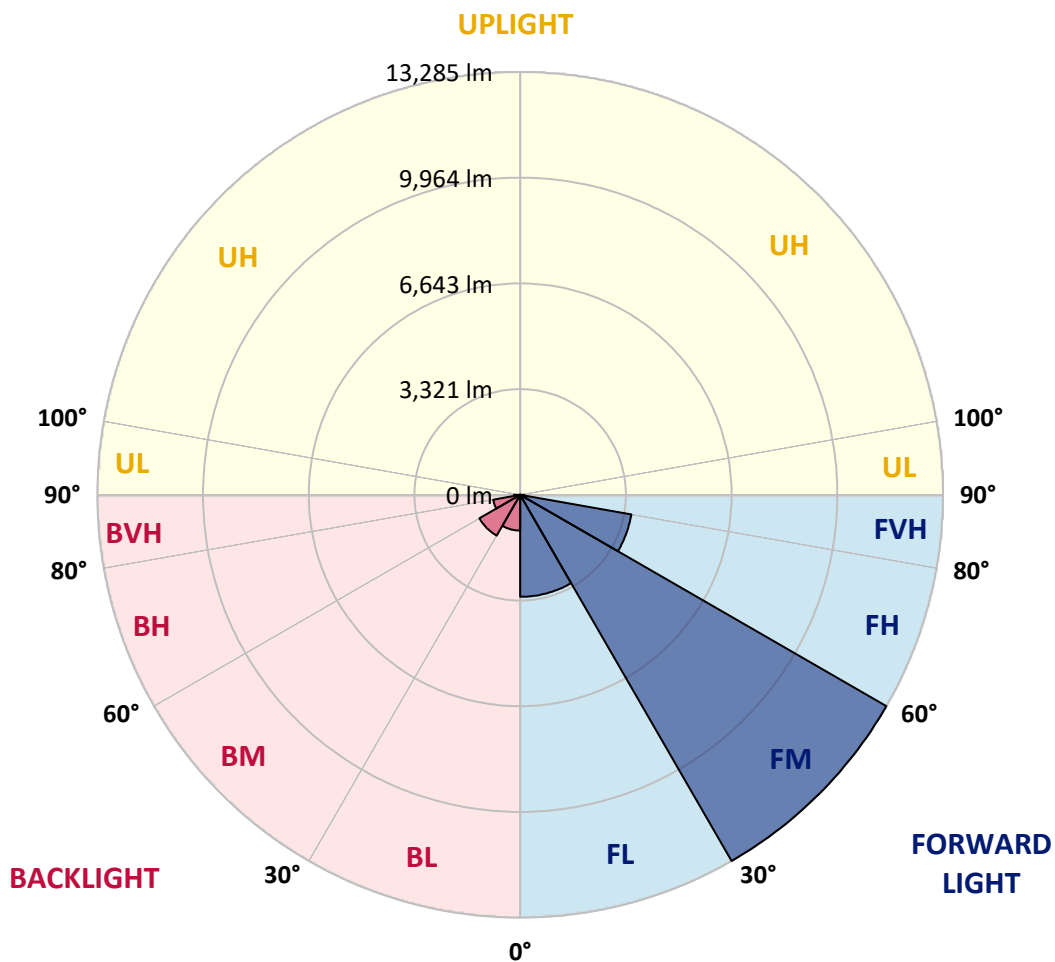
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3204.6	13.5			
FM	(30°-60°)	13285.4	55.8			
FH	(60°-80°)	3547.5	14.9			G2/5000
FVH	(80°-90°)	129.9	0.5			G2/225
BL	(0°-30°)	1124.5	4.7	B3/2500		
BM	(30°-60°)	1479.4	6.2	B2/2500		
BH	(60°-80°)	861.2	3.6	B2/1000		G2/1000
BVH	(80°-90°)	193.0	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°	6361.3	6361.3	6361.3	6361.3	6361.3	6361.3	6361.3	6361.3	6361.3	6361.3	6361.3
2.5°	7220.4	7215.9	7154.9	7114.7	7067.1	6956.8	6846.7	6764.7	6723.1	6563.7	6408.9
5°	7817.5	7799.7	7765.4	7722.2	7659.7	7521.1	7347.0	7196.6	7137.0	6854.1	6569.8
7.5°	7501.8	7530.1	7635.9	7755.0	7880.1	7889.0	7765.4	7586.7	7521.1	7143.1	6726.1
10°	6627.8	6615.8	6748.3	6980.6	7393.2	7801.2	8005.2	7917.3	7848.9	7416.9	6882.5
12.5°	6362.8	6359.7	6382.1	6441.7	6700.7	7260.6	7944.2	8134.7	8110.8	7707.4	7049.2
15°	6443.2	6446.1	6444.6	6452.0	6523.5	6790.1	7603.2	8207.6	8282.2	7994.7	7218.9
17.5°	6700.7	6690.3	6657.6	6621.9	6632.2	6727.5	7235.3	8082.6	8306.0	8250.8	7361.9
20°	7098.3	7098.3	7010.5	6910.8	6845.2	6866.0	7082.0	7868.2	8195.7	8468.2	7469.0
22.5°	7597.1	7604.6	7475.1	7293.3	7144.5	7087.8	7169.8	7708.9	8061.7	8669.3	7564.4
25°	8216.5	8215.1	8025.9	7765.4	7530.1	7394.7	7393.2	7716.4	8020.1	8904.5	7664.2
27.5°	8983.5	8913.5	8693.1	8322.3	7990.2	7783.3	7689.5	7903.8	8107.9	9193.4	7798.1
30°	9848.6	9777.2	9488.3	9011.7	8562.0	8259.7	8104.9	8228.6	8375.9	9561.2	8000.7
32.5°	10704.8	10721.2	10381.7	9844.2	9266.3	8840.5	8611.2	8687.1	8789.8	10010.9	8274.6
35°	11958.5	11957.1	11513.3	10841.9	10155.3	9565.7	9275.3	9315.6	9409.3	10645.3	8658.9
37.5°	12893.7	12878.8	12592.9	11998.8	11225.9	10518.7	10098.7	10104.8	10185.2	11441.9	9165.1
40°	12989.0	12986.1	12984.6	12899.8	12371.1	11703.9	11178.2	11069.6	11102.4	12287.6	9702.8
42.5°	12260.8	12369.7	12682.4	13161.7	13309.2	12959.3	12461.8	12219.1	12147.7	13258.5	10271.5
45°	11223.1	11278.1	11826.0	12904.2	13781.2	14138.6	13764.8	13252.5	13130.4	14202.7	10734.6
47.5°	10740.6	10716.7	11033.9	12208.8	13735.1	15076.7	15103.6	14263.6	14056.7	15017.1	11129.2
50°	9705.6	9674.3	10074.9	11185.8	13231.8	15542.7	16477.9	15365.6	14982.9	15791.5	11486.5
52.5°	7643.3	7613.6	8151.1	9582.1	12106.0	15368.6	17636.3	16717.5	16065.4	16537.4	11820.1
55°	4973.5	4976.4	5488.6	6964.3	9796.5	14352.9	18179.9	18279.6	17548.5	17283.5	12089.6
57.5°	2738.4	2713.1	3077.9	3984.7	6739.4	12046.5	17727.2	19405.4	19024.1	17923.7	12284.7
58°	2434.5	2404.9	2686.2	3467.9	6042.5	11395.8	17499.3	19476.8	19213.3	18029.5	12313.0
60°	1734.7	1684.1	1640.9	1955.2	3481.4	8216.5	15980.6	19013.7	19268.4	18241.0	12286.2
62.5°	1462.3	1404.2	1249.4	1237.4	1639.4	4018.9	12637.6	16698.2	17411.5	17754.0	11854.4
65°	1358.0	1299.9	1095.9	1023.0	1112.3	1734.7	7814.5	12893.7	13846.7	16060.9	10767.4
67.5°	1283.6	1215.0	996.2	900.9	918.7	1037.9	3316.2	8432.5	9537.3	12524.4	8638.0
70°	1216.6	1140.6	917.3	807.0	792.1	789.3	1295.4	4403.1	5467.9	8195.7	5786.4
72.5°	1140.6	1066.2	847.3	729.7	696.8	640.3	778.8	1819.6	2494.1	4017.5	2651.9
75°	1030.4	969.5	769.8	665.6	609.1	519.7	574.7	872.7	1075.1	1538.2	1231.4
77.5°	906.7	857.7	690.9	611.9	536.1	424.4	439.4	591.2	664.0	866.7	713.3
80°	641.7	659.6	603.0	539.1	472.0	342.4	338.0	433.3	476.6	582.2	479.4
82.5°	442.2	455.6	491.5	425.8	381.2	266.5	248.7	300.8	323.1	351.3	232.3
85°	315.7	306.7	340.9	305.2	279.9	169.8	159.3	190.6	203.9	214.4	111.7
87.5°	192.1	190.6	196.5	157.8	146.0	86.3	79.0	90.8	96.7	93.9	53.5
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°	6361.3	6361.3	6361.3	6361.3	6361.3	6361.3	6361.3	6361.3	6361.3	6361.3	6361.3
2.5°	6350.7	6277.9	6118.5	5990.4	5852.0	5746.3	5640.5	5581.0	5515.5	5478.3	5473.7
5°	6420.8	6271.8	5932.3	5616.7	5292.2	5000.2	4714.3	4502.9	4330.2	4231.8	4225.9
7.5°	6498.2	6264.5	5740.3	5193.8	4616.1	4041.3	3533.6	3174.7	2943.8	2836.7	2829.2
10°	6557.7	6233.2	5506.5	4656.3	3740.5	2981.0	2519.4	2308.0	2238.0	2220.3	2217.1
12.5°	6629.3	6210.8	5211.6	3966.8	2858.9	2269.3	2129.3	2116.0	2130.8	2139.8	2141.3
15°	6696.2	6167.7	4814.0	3202.9	2238.0	2028.2	2031.1	2059.4	2089.2	2102.6	2104.0
17.5°	6727.5	6061.9	4291.5	2524.0	1958.1	1919.4	1953.6	1990.9	2017.7	2028.2	2028.2
20°	6727.5	5892.3	3685.3	2044.5	1812.2	1819.6	1861.3	1889.7	1895.6	1886.6	1882.2
22.5°	6699.3	5682.1	3095.7	1783.9	1693.0	1721.3	1754.1	1734.7	1664.7	1611.2	1600.7
25°	6674.0	5433.6	2528.4	1624.6	1588.8	1626.0	1612.6	1480.0	1372.9	1317.9	1308.9
27.5°	6632.2	5132.7	2055.0	1493.5	1487.6	1517.3	1384.7	1256.8	1203.2	1173.4	1167.3
30°	6621.9	4806.7	1719.8	1377.5	1387.8	1346.1	1194.2	1152.5	1140.6	1124.1	1116.9
32.5°	6656.1	4480.6	1510.0	1282.2	1292.5	1155.5	1097.4	1103.4	1102.0	1081.1	1073.7
35°	6749.9	4163.5	1375.8	1195.7	1165.9	1034.8	1042.4	1060.2	1060.2	1034.8	1026.0
37.5°	6913.6	3868.6	1291.0	1122.7	1019.9	972.3	991.6	1015.5	1015.5	997.7	990.2
40°	7087.8	3581.2	1226.9	1064.8	927.7	929.1	948.5	966.3	973.9	976.8	970.9
42.5°	7245.8	3283.3	1158.5	1002.1	886.0	896.4	905.3	918.7	950.0	970.9	967.8
45°	7338.1	2984.1	1084.1	924.7	857.7	862.2	859.1	883.0	920.3	951.6	951.6
47.5°	7423.0	2738.4	1023.0	847.3	829.5	829.5	820.4	844.2	878.5	915.7	918.7
50°	7503.4	2579.0	979.8	787.8	793.7	789.3	786.2	808.6	854.6	899.5	906.7
52.5°	7585.3	2525.4	941.1	744.5	756.5	750.4	753.5	784.7	836.9	883.0	890.5
55°	7699.9	2559.7	900.9	714.7	720.7	719.3	731.1	766.9	813.1	859.1	862.2
57.5°	7841.3	2684.8	866.7	692.5	686.5	695.4	714.7	748.9	793.7	848.8	853.2
58°	7869.6	2714.6	860.7	686.5	678.9	692.5	711.7	744.5	790.7	848.8	853.2
60°	7912.8	2820.3	845.8	674.5	653.6	677.5	701.3	734.2	784.7	856.3	865.2
62.5°	7704.4	2841.1	841.4	661.2	626.8	656.8	685.0	722.1	778.8	881.5	900.9
65°	6982.2	2626.7	810.0	638.9	604.6	640.3	670.0	713.3	796.6	957.5	966.3
67.5°	5604.9	2181.4	734.2	604.6	579.2	621.0	658.2	713.3	804.2	969.5	975.3
70°	3853.6	1639.4	638.9	567.3	549.5	597.2	653.6	729.7	778.8	917.3	899.5
72.5°	2013.2	1140.6	559.9	524.2	513.7	576.3	696.8	713.3	748.9	856.3	838.4
75°	1014.0	775.7	492.9	475.1	473.5	568.8	780.3	686.5	717.7	805.6	844.2
77.5°	598.6	607.6	439.4	428.9	436.2	555.4	781.7	659.6	682.1	741.6	783.2
80°	409.4	501.9	397.6	394.5	400.6	510.7	720.7	626.8	640.3	701.3	746.0
82.5°	230.9	276.9	348.5	367.8	364.8	418.4	622.4	570.3	586.8	829.5	877.0
85°	111.7	166.7	291.9	344.1	311.3	278.5	506.3	506.3	510.7	594.0	601.5
87.5°	41.7	74.5	196.5	272.5	217.4	166.7	344.1	358.9	399.0	411.0	419.9
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)