

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: P196977

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196977
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-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12236 lumens
Efficiency: N/A
Efficacy: 98.7 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

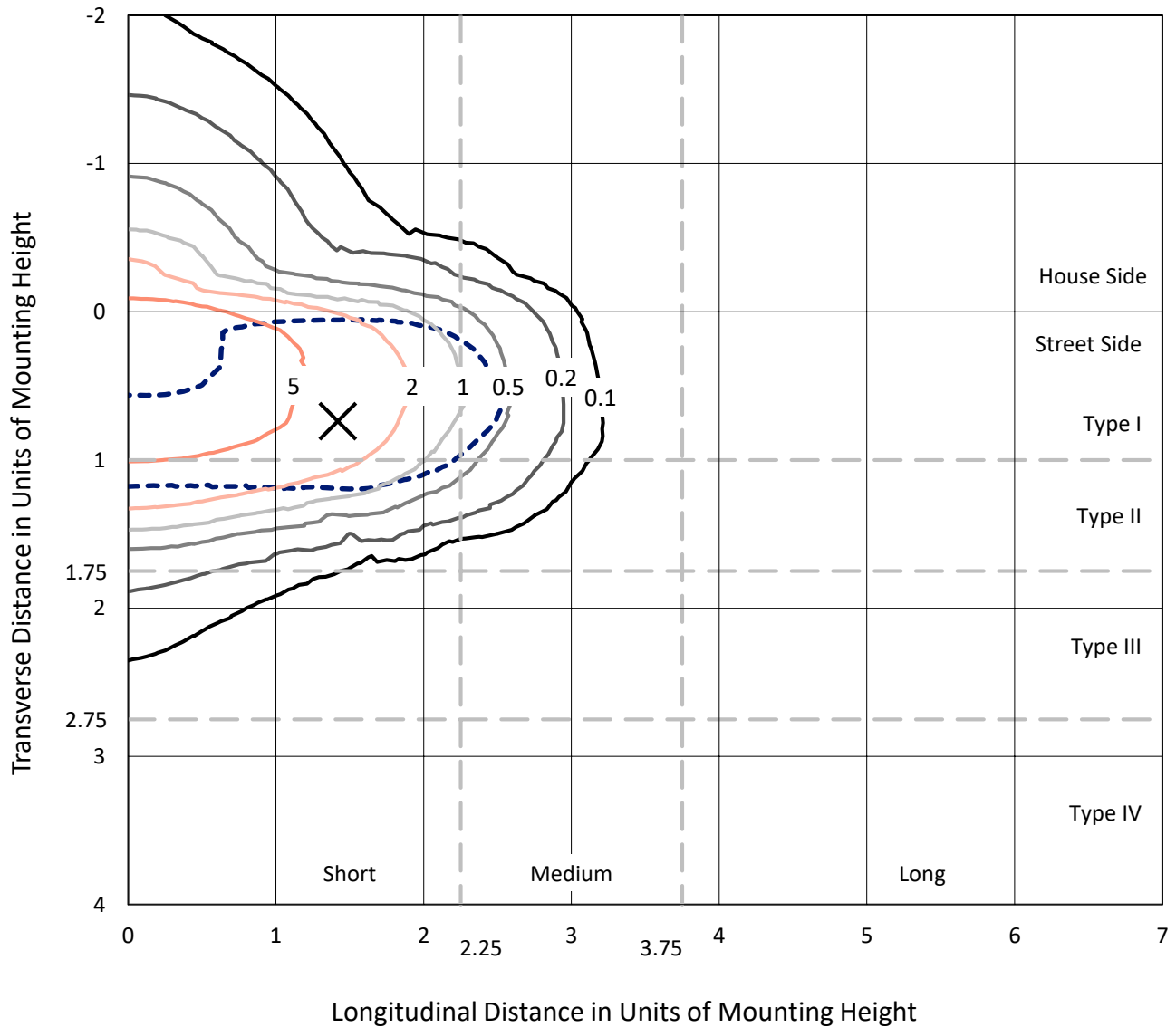


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

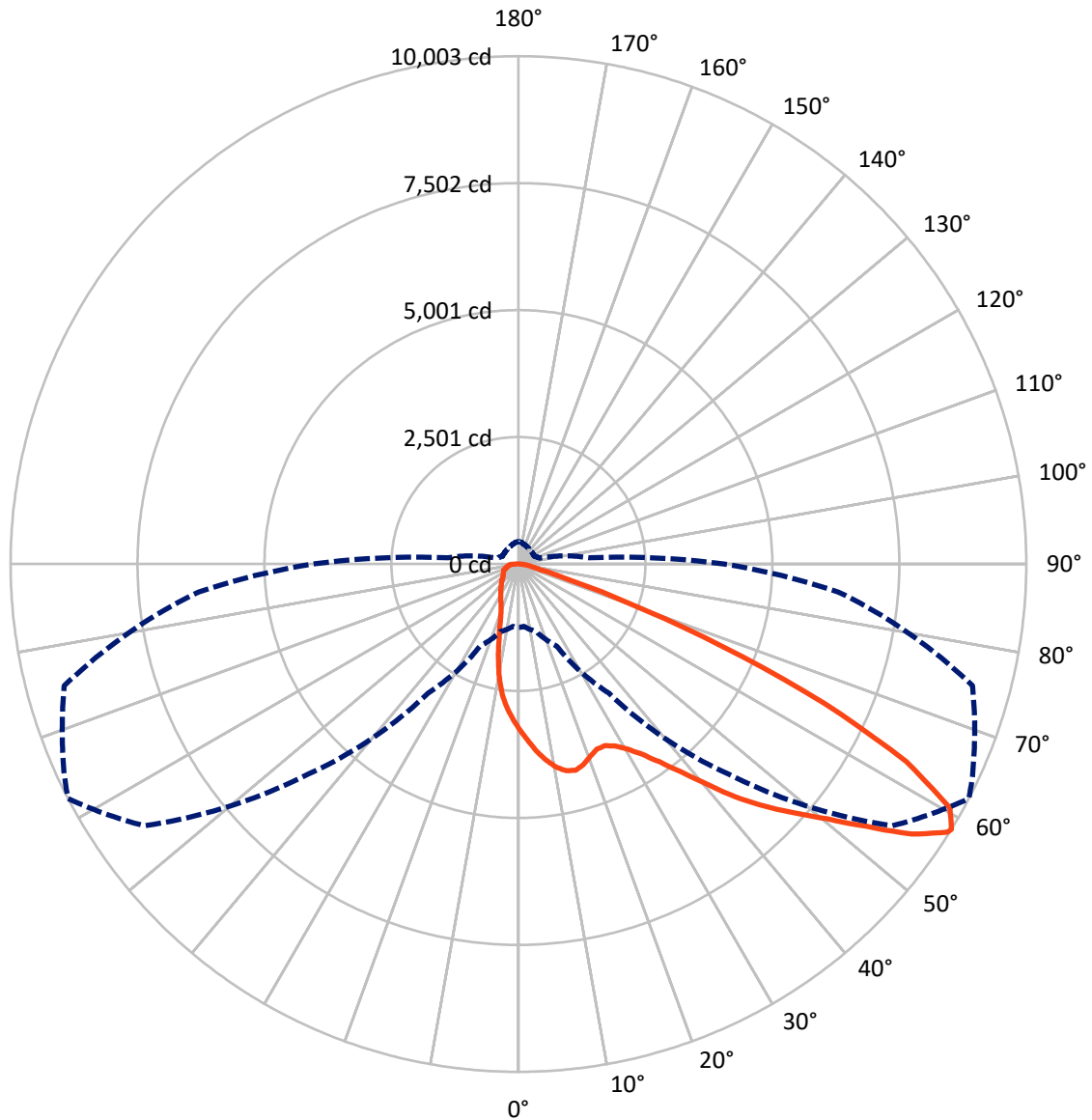


Based on 20 foot mounting height. Maximum calculated value = 9.6 fc
 Type II - Short - Full Cutoff

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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	1878.7	0.0	1878.7
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	10357.3	0.0	10357.3
	% Fixture	84.6	0.0	84.6
Total	Lumens	12236.0	0.0	12236.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.0	2.4
10°-20°	737.0	6.0
20°-30°	1194.3	9.8
30°-40°	1906.8	15.6
40°-50°	2773.6	22.7
50°-60°	2902.3	23.7
60°-70°	1769.3	14.5
70°-80°	494.8	4.0
80°-90°	165.9	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°	12236.0	100.0
0°-180°	12236.0	100.0

Coefficient of Utilization



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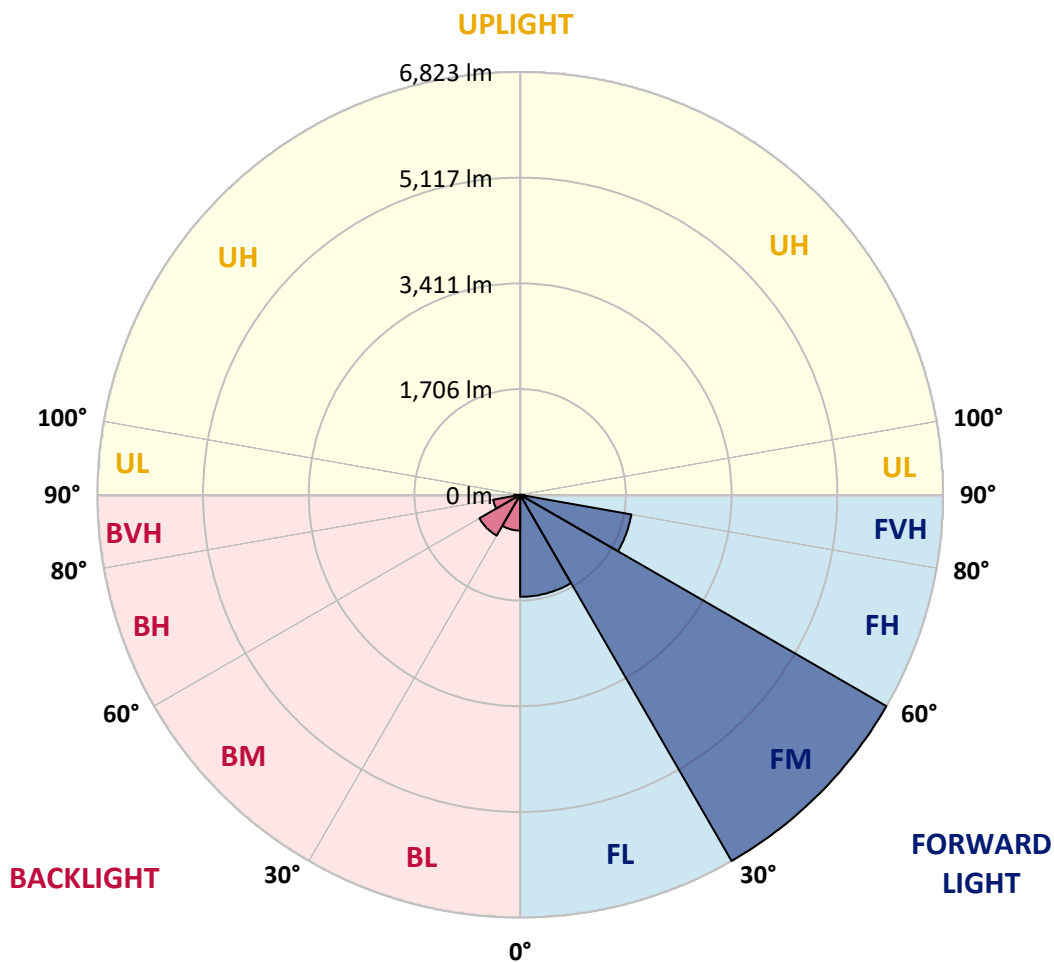
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1645.8	13.5			
FM (30°-60°)	6822.9	55.8			
FH (60°-80°)	1821.9	14.9			G2/5000
FVH (80°-90°)	66.7	0.5			G1/100
BL (0°-30°)	577.5	4.7	B2/1000		
BM (30°-60°)	759.8	6.2	B1/1000		
BH (60°-80°)	442.3	3.6	B1/500		G1/500
BVH (80°-90°)	99.1	0.8			G1/100
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°	3266.9	3266.9	3266.9	3266.9	3266.9	3266.9	3266.9	3266.9	3266.9	3266.9	3266.9
2.5°	3708.2	3705.9	3674.5	3653.9	3629.4	3572.8	3516.2	3474.2	3452.8	3370.9	3291.4
5°	4014.8	4005.7	3988.1	3965.9	3933.8	3862.7	3773.2	3695.9	3665.4	3520.1	3374.0
7.5°	3852.7	3867.2	3921.5	3982.7	4047.0	4051.5	3988.1	3896.3	3862.7	3668.4	3454.3
10°	3403.8	3397.7	3465.8	3585.1	3796.9	4006.4	4111.2	4066.1	4030.9	3809.1	3534.6
12.5°	3267.7	3266.2	3277.6	3308.2	3441.3	3728.8	4079.8	4177.7	4165.5	3958.2	3620.2
15°	3309.0	3310.5	3309.8	3313.6	3350.3	3487.2	3904.7	4215.2	4253.4	4105.8	3707.4
17.5°	3441.3	3435.9	3419.1	3400.8	3406.1	3455.1	3715.8	4151.0	4265.7	4237.4	3780.8
20°	3645.5	3645.5	3600.4	3549.1	3515.5	3526.2	3637.1	4040.8	4209.1	4349.0	3835.9
22.5°	3901.7	3905.5	3839.0	3745.7	3669.2	3640.1	3682.2	3959.0	4140.3	4452.3	3884.8
25°	4219.8	4219.0	4121.9	3988.1	3867.2	3797.7	3796.9	3962.8	4118.8	4573.1	3936.1
27.5°	4613.6	4577.7	4464.5	4274.1	4103.5	3997.2	3949.1	4059.2	4164.0	4721.5	4004.9
30°	5057.9	5021.2	4872.9	4628.2	4397.2	4242.0	4162.4	4225.9	4301.6	4910.3	4108.9
32.5°	5497.7	5506.1	5331.7	5055.6	4758.9	4540.2	4422.4	4461.4	4514.2	5141.3	4249.6
35°	6141.6	6140.8	5912.9	5568.0	5215.5	4912.6	4763.5	4784.2	4832.3	5467.1	4446.9
37.5°	6621.8	6614.2	6467.3	6162.2	5765.3	5402.1	5186.4	5189.5	5230.8	5876.2	4706.9
40°	6670.8	6669.2	6668.5	6624.9	6353.4	6010.8	5740.8	5685.0	5701.8	6310.6	4983.0
42.5°	6296.8	6352.6	6513.2	6759.5	6835.2	6655.5	6400.0	6275.4	6238.7	6809.2	5275.1
45°	5763.8	5792.1	6073.5	6627.2	7077.6	7261.1	7069.2	6806.1	6743.4	7294.0	5512.9
47.5°	5516.0	5503.8	5666.7	6270.0	7053.9	7742.9	7756.7	7325.4	7219.1	7712.3	5715.6
50°	4984.5	4968.5	5174.2	5744.7	6795.4	7982.3	8462.5	7891.3	7694.7	8110.0	5899.1
52.5°	3925.4	3910.1	4186.1	4921.0	6217.3	7892.8	9057.5	8585.6	8250.7	8493.1	6070.4
55°	2554.2	2555.7	2818.8	3576.6	5031.2	7371.2	9336.6	9387.8	9012.4	8876.2	6208.9
57.5°	1406.3	1393.3	1580.7	2046.4	3461.2	6186.7	9104.1	9966.0	9770.2	9205.1	6309.0
58°	1250.3	1235.0	1379.6	1781.1	3103.3	5852.5	8987.1	10002.7	9867.3	9259.4	6323.6
60°	890.9	864.9	842.7	1004.1	1787.9	4219.8	8207.1	9764.9	9895.6	9368.0	6309.8
62.5°	751.0	721.1	641.6	635.5	842.0	2064.0	6490.3	8575.7	8942.0	9117.9	6088.0
65°	697.4	667.6	562.8	525.4	571.3	890.9	4013.3	6621.8	7111.2	8248.4	5529.8
67.5°	659.2	624.0	511.6	462.7	471.8	533.0	1703.1	4330.7	4898.1	6432.2	4436.2
70°	624.8	585.8	471.1	414.5	406.8	405.3	665.3	2261.3	2808.1	4209.1	2971.7
72.5°	585.8	547.5	435.1	374.7	357.9	328.8	400.0	934.5	1280.9	2063.2	1362.0
75°	529.2	497.8	395.4	341.8	312.8	266.9	295.2	448.1	552.1	790.0	632.4
77.5°	465.7	440.5	354.8	314.3	275.3	217.9	225.6	303.6	341.1	445.1	366.3
80°	329.6	338.8	309.7	276.8	242.4	175.9	173.6	222.5	244.7	299.0	246.2
82.5°	227.1	234.0	252.4	218.7	195.8	136.9	127.7	154.5	165.9	180.5	119.3
85°	162.1	157.5	175.1	156.8	143.8	87.2	81.8	97.9	104.8	110.1	57.4
87.5°	98.7	97.9	100.9	81.1	74.9	44.4	40.5	46.6	49.7	48.2	27.5
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°	3266.9	3266.9	3266.9	3266.9	3266.9	3266.9	3266.9	3266.9	3266.9	3266.9	3266.9
2.5°	3261.6	3224.1	3142.3	3076.5	3005.4	2951.1	2896.8	2866.2	2832.6	2813.4	2811.2
5°	3297.5	3221.0	3046.7	2884.6	2717.9	2568.0	2421.1	2312.5	2223.8	2173.4	2170.3
7.5°	3337.3	3217.2	2948.0	2667.4	2370.7	2075.5	1814.7	1630.4	1511.9	1456.8	1453.0
10°	3367.9	3201.2	2828.0	2391.3	1921.0	1531.0	1293.9	1185.3	1149.4	1140.2	1138.7
12.5°	3404.6	3189.7	2676.6	2037.2	1468.3	1165.5	1093.6	1086.7	1094.3	1098.9	1099.7
15°	3439.0	3167.5	2472.4	1644.9	1149.4	1041.6	1043.1	1057.6	1072.9	1079.8	1080.6
17.5°	3455.1	3113.2	2204.0	1296.2	1005.6	985.7	1003.3	1022.4	1036.2	1041.6	1041.6
20°	3455.1	3026.0	1892.7	1050.0	930.7	934.5	955.9	970.4	973.5	968.9	966.6
22.5°	3440.5	2918.2	1589.9	916.1	869.5	884.0	900.9	890.9	855.0	827.4	822.1
25°	3427.5	2790.5	1298.5	834.3	816.0	835.1	828.2	760.1	705.1	676.8	672.2
27.5°	3406.1	2636.0	1055.3	767.0	764.0	779.3	711.2	645.4	617.9	602.6	599.5
30°	3400.8	2468.6	883.3	707.4	712.7	691.3	613.3	591.9	585.8	577.4	573.5
32.5°	3418.3	2301.1	775.4	658.4	663.8	593.4	563.6	566.7	565.9	555.2	551.4
35°	3466.5	2138.2	706.6	614.1	598.8	531.5	535.3	544.5	544.5	531.5	526.9
37.5°	3550.6	1986.8	663.0	576.6	523.8	499.4	509.3	521.5	521.5	512.4	508.5
40°	3640.1	1839.2	630.1	546.8	476.4	477.2	487.1	496.3	500.1	501.7	498.6
42.5°	3721.2	1686.2	595.0	514.7	455.0	460.4	465.0	471.8	487.9	498.6	497.1
45°	3768.6	1532.5	556.7	474.9	440.5	442.8	441.2	453.5	472.6	488.7	488.7
47.5°	3812.2	1406.3	525.4	435.1	426.0	426.0	421.4	433.6	451.2	470.3	471.8
50°	3853.5	1324.5	503.2	404.5	407.6	405.3	403.8	415.2	439.0	461.9	465.7
52.5°	3895.5	1297.0	483.3	382.4	388.5	385.4	387.0	403.0	429.8	453.5	457.3
55°	3954.4	1314.6	462.7	367.1	370.1	369.4	375.5	393.8	417.5	441.2	442.8
57.5°	4027.1	1378.8	445.1	355.6	352.5	357.1	367.1	384.7	407.6	435.9	438.2
58°	4041.6	1394.1	442.0	352.5	348.7	355.6	365.5	382.4	406.1	435.9	438.2
60°	4063.8	1448.4	434.4	346.4	335.7	348.0	360.2	377.0	403.0	439.7	444.3
62.5°	3956.7	1459.1	432.1	339.5	322.0	337.2	351.8	370.9	400.0	452.7	462.7
65°	3585.8	1349.0	416.0	328.1	310.5	328.8	344.1	366.3	409.1	491.7	496.3
67.5°	2878.4	1120.3	377.0	310.5	297.5	318.9	338.0	366.3	413.0	497.8	500.9
70°	1979.1	842.0	328.1	291.4	282.2	306.7	335.7	374.7	400.0	471.1	461.9
72.5°	1033.9	585.8	287.5	269.2	263.8	296.0	357.9	366.3	384.7	439.7	430.5
75°	520.8	398.4	253.1	243.9	243.2	292.1	400.7	352.5	368.6	413.7	433.6
77.5°	307.4	312.0	225.6	220.2	224.1	285.2	401.5	338.8	350.2	380.8	402.2
80°	210.3	257.7	204.2	202.7	205.7	262.3	370.1	322.0	328.8	360.2	383.1
82.5°	118.5	142.2	178.9	188.9	187.4	214.9	319.7	292.9	301.3	426.0	450.4
85°	57.4	85.6	149.9	176.7	159.8	143.0	260.0	260.0	262.3	305.1	309.0
87.5°	21.4	38.2	100.9	139.9	111.7	85.6	176.7	184.3	204.9	211.1	215.7
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)