

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: P195053

Luminaire Tested: **NAV-AF-05-D-UNV-AFL-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195053
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-05-D-UNV-AFL-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20299 lumens
Efficiency: N/A
Efficacy: 125.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

Input Watts (W): 162
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

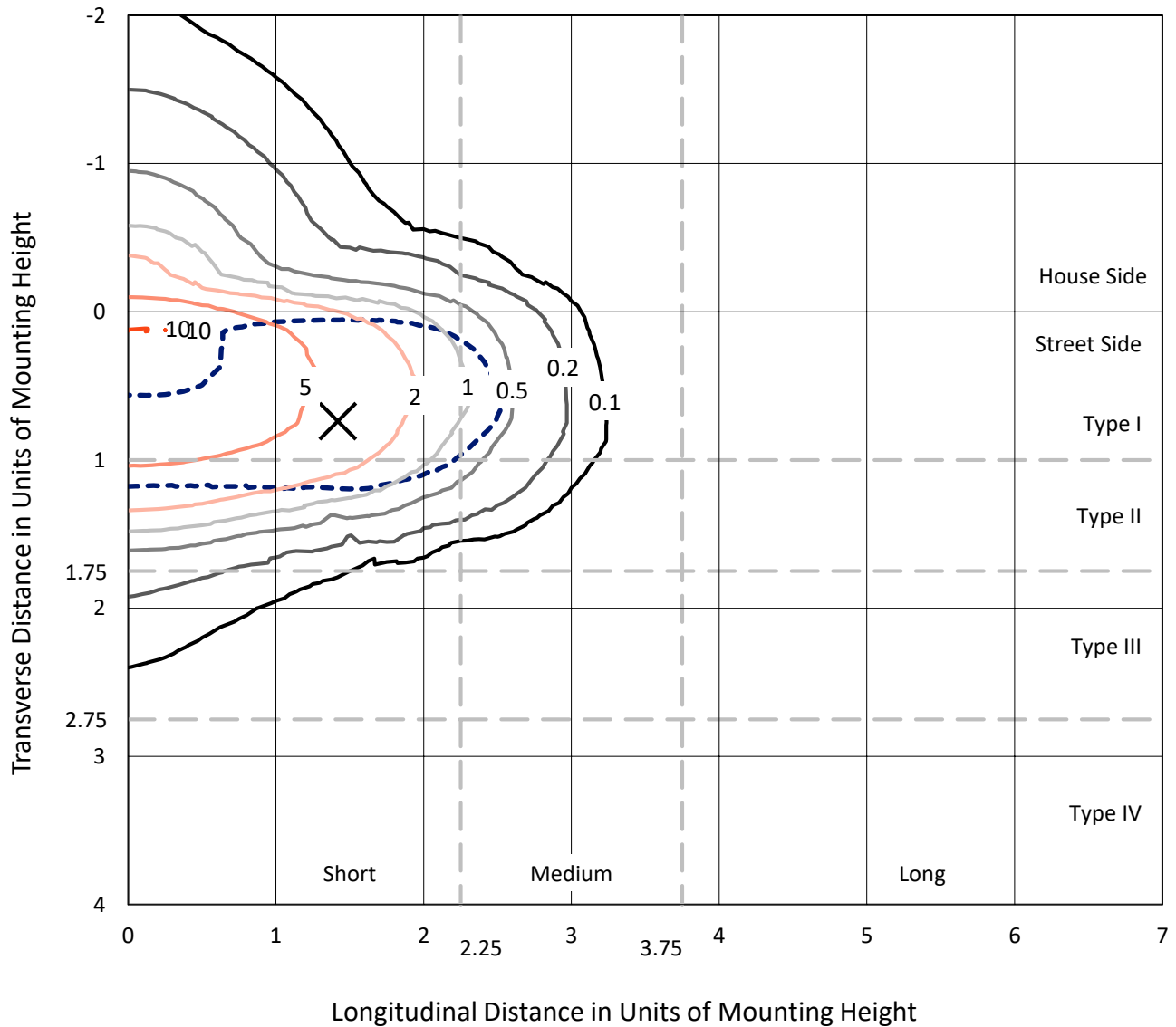


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Iso-Footcandle Lines of Horizontal Illumination

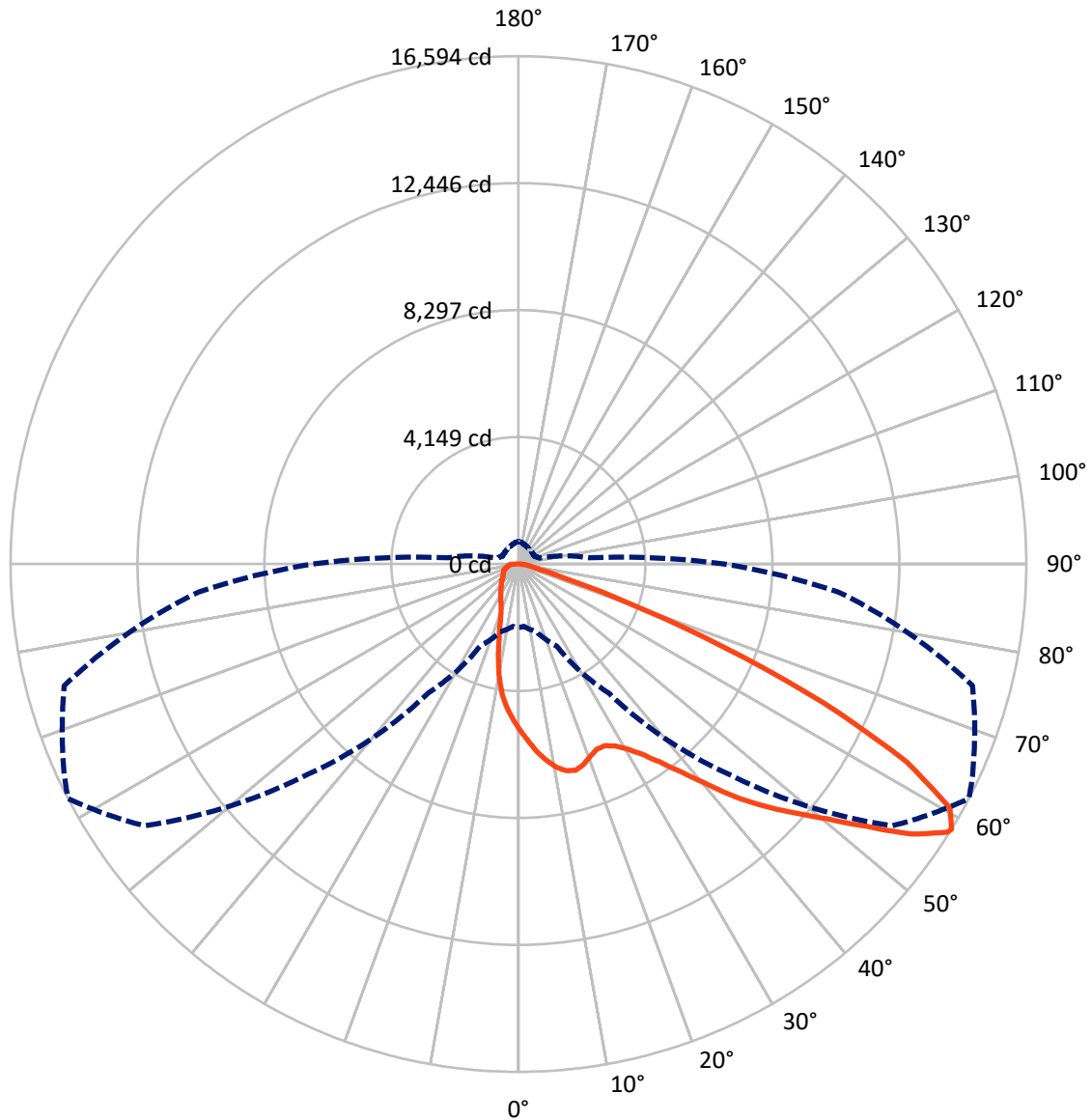
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.1 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	3116.7	0.0	3116.7
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	17182.3	0.0	17182.3
	% Fixture	84.6	0.0	84.6
Total	Lumens	20299.0	0.0	20299.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	484.4	2.4
10°-20°	1222.6	6.0
20°-30°	1981.3	9.8
30°-40°	3163.4	15.6
40°-50°	4601.2	22.7
50°-60°	4814.8	23.7
60°-70°	2935.3	14.5
70°-80°	820.9	4.0
80°-90°	275.2	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°	20299.0	100.0
0°-180°	20299.0	100.0



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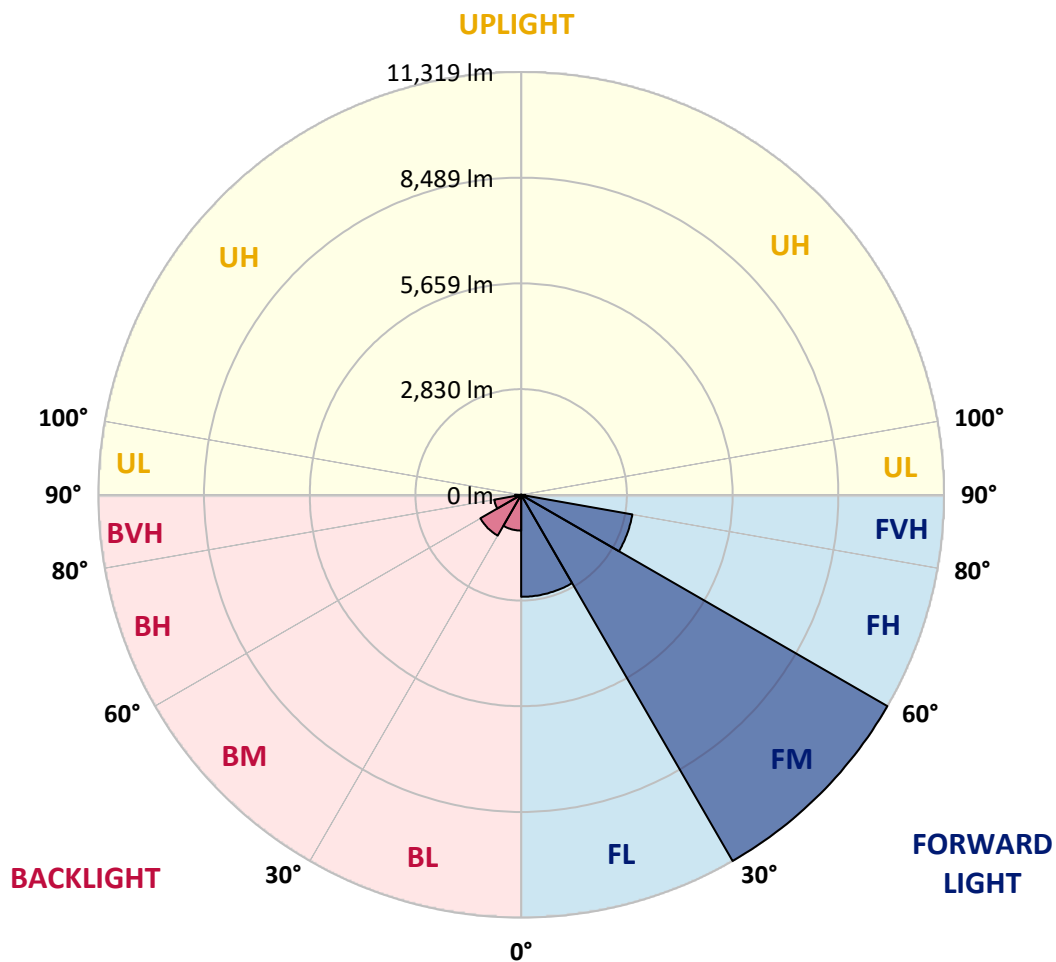
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2730.3	13.5			
FM (30°-60°)	11319.0	55.8			
FH (60°-80°)	3022.4	14.9			G2/5000
FVH (80°-90°)	110.7	0.5			G2/225
BL (0°-30°)	958.1	4.7	B2/1000		
BM (30°-60°)	1260.4	6.2	B2/2500		
BH (60°-80°)	733.7	3.6	B2/1000		G2/1000
BVH (80°-90°)	164.5	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	5419.7	5419.7	5419.7	5419.7	5419.7	5419.7	5419.7	5419.7	5419.7	5419.7	5419.7
2.5°	6151.7	6147.9	6095.9	6061.6	6021.0	5927.2	5833.3	5763.5	5728.0	5592.2	5460.3
5°	6660.4	6645.2	6616.0	6579.3	6526.0	6408.0	6259.6	6131.4	6080.7	5839.6	5597.3
7.5°	6391.5	6415.6	6505.7	6607.2	6713.7	6721.3	6616.0	6463.8	6408.0	6085.7	5730.5
10°	5646.8	5636.6	5749.6	5947.5	6298.9	6646.5	6820.3	6745.4	6687.1	6319.2	5863.7
12.5°	5421.0	5418.4	5437.5	5488.2	5709.0	6186.0	6768.3	6930.7	6910.4	6566.6	6005.8
15°	5489.5	5492.0	5490.7	5497.1	5558.0	5785.1	6477.8	6992.8	7056.3	6811.4	6150.4
17.5°	5709.0	5700.1	5672.2	5641.7	5650.6	5731.8	6164.4	6886.3	7076.6	7029.6	6272.2
20°	6047.7	6047.7	5972.8	5887.8	5832.0	5849.8	6033.7	6703.6	6982.7	7214.8	6363.6
22.5°	6472.7	6479.0	6368.7	6213.9	6087.0	6038.8	6108.6	6567.8	6868.5	7386.1	6444.8
25°	7000.4	6999.2	6838.1	6616.0	6415.6	6300.1	6298.9	6574.2	6833.0	7586.6	6529.8
27.5°	7653.8	7594.2	7406.4	7090.5	6807.6	6631.3	6551.3	6734.0	6907.8	7832.7	6644.0
30°	8390.9	8330.0	8083.9	7677.9	7294.8	7037.2	6905.3	7010.6	7136.2	8146.0	6816.5
32.5°	9120.4	9134.3	8845.1	8387.1	7894.8	7532.0	7336.6	7401.3	7488.9	8529.2	7049.9
35°	10188.6	10187.3	9809.3	9237.1	8652.2	8149.8	7902.5	7936.7	8016.6	9069.6	7377.2
37.5°	10985.3	10972.6	10729.0	10222.8	9564.4	8961.8	8604.0	8609.1	8677.6	9748.4	7808.6
40°	11066.5	11064.0	11062.7	10990.4	10540.0	9971.6	9523.8	9431.2	9459.1	10469.0	8266.6
42.5°	10446.1	10538.7	10805.1	11213.7	11339.3	11041.1	10617.4	10410.6	10349.7	11296.1	8751.2
45°	9561.9	9608.8	10075.7	10994.2	11741.4	12045.9	11727.5	11291.0	11187.0	12100.4	9145.7
47.5°	9150.8	9130.5	9400.7	10401.7	11702.1	12845.1	12868.0	12152.5	11976.1	12794.4	9481.9
50°	8269.1	8242.5	8583.7	9530.1	11273.3	13242.2	14039.0	13091.3	12765.2	13454.1	9786.4
52.5°	6512.0	6486.6	6944.6	8163.8	10314.2	13093.8	15026.0	14243.2	13687.5	14089.7	10070.6
55°	4237.3	4239.8	4676.3	5933.5	8346.5	12228.6	15489.0	15574.0	14951.1	14725.3	10300.2
57.5°	2333.1	2311.5	2622.3	3394.9	5741.9	10263.4	15103.4	16533.1	16208.4	15270.8	10466.4
58°	2074.3	2048.9	2288.7	2954.7	5148.2	9709.0	14909.2	16594.0	16369.5	15360.9	10490.5
60°	1478.0	1434.9	1398.1	1665.7	2966.1	7000.4	13615.2	16199.5	16416.4	15541.0	10467.7
62.5°	1245.8	1196.3	1064.4	1054.3	1396.8	3424.1	10767.1	14226.7	14834.4	15126.2	10099.8
65°	1157.0	1107.5	933.7	871.6	947.7	1478.0	6657.9	10985.3	11797.2	13683.7	9173.7
67.5°	1093.6	1035.2	848.7	767.5	782.8	884.3	2825.3	7184.4	8125.7	10670.7	7359.5
70°	1036.5	971.8	781.5	687.6	674.9	672.4	1103.7	3751.4	4658.5	6982.7	4930.0
72.5°	971.8	908.4	721.9	621.6	593.7	545.5	663.5	1550.3	2125.0	3422.8	2259.5
75°	877.9	825.9	655.9	567.1	518.9	442.8	489.7	743.4	916.0	1310.5	1049.2
77.5°	772.6	730.7	588.7	521.4	456.7	361.6	374.3	503.7	565.8	738.4	607.7
80°	546.8	562.0	513.8	459.3	402.2	291.8	288.0	369.2	406.0	496.0	408.5
82.5°	376.8	388.2	418.7	362.8	324.8	227.1	211.9	256.3	275.3	299.4	197.9
85°	269.0	261.3	290.5	260.1	238.5	144.6	135.7	162.4	173.8	182.7	95.1
87.5°	163.7	162.4	167.5	134.5	124.3	73.6	67.2	77.4	82.5	79.9	45.7
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°	5419.7	5419.7	5419.7	5419.7	5419.7	5419.7	5419.7	5419.7	5419.7	5419.7	5419.7
2.5°	5410.8	5348.7	5212.9	5103.8	4985.8	4895.7	4805.7	4754.9	4699.1	4667.4	4663.6
5°	5470.4	5343.6	5054.3	4785.4	4508.8	4260.1	4016.6	3836.4	3689.3	3605.5	3600.4
7.5°	5536.4	5337.2	4890.7	4425.1	3932.8	3443.1	3010.5	2704.8	2508.1	2416.8	2410.4
10°	5587.2	5310.6	4691.5	3967.1	3186.9	2539.8	2146.6	1966.4	1906.8	1891.6	1889.0
12.5°	5648.1	5291.6	4440.3	3379.7	2435.8	1933.4	1814.2	1802.8	1815.4	1823.1	1824.3
15°	5705.1	5254.8	4101.6	2728.9	1906.8	1727.9	1730.4	1754.6	1779.9	1791.3	1792.6
17.5°	5731.8	5164.7	3656.3	2150.4	1668.3	1635.3	1664.5	1696.2	1719.0	1727.9	1727.9
20°	5731.8	5020.1	3139.9	1741.9	1544.0	1550.3	1585.8	1609.9	1615.0	1607.4	1603.6
22.5°	5707.7	4841.2	2637.5	1519.9	1442.5	1466.6	1494.5	1478.0	1418.4	1372.7	1363.8
25°	5686.1	4629.3	2154.2	1384.1	1353.7	1385.4	1374.0	1261.0	1169.7	1122.8	1115.1
27.5°	5650.6	4373.1	1750.7	1272.5	1267.4	1292.8	1179.9	1070.7	1025.1	999.7	994.6
30°	5641.7	4095.2	1465.3	1173.5	1182.4	1146.9	1017.5	981.9	971.8	957.8	951.5
32.5°	5670.9	3817.4	1286.4	1092.3	1101.2	984.5	935.0	940.1	938.8	921.0	914.7
35°	5750.8	3547.2	1172.2	1018.7	993.4	881.7	888.1	903.3	903.3	881.7	874.1
37.5°	5890.4	3296.0	1099.9	956.6	869.0	828.4	844.9	865.2	865.2	850.0	843.7
40°	6038.8	3051.1	1045.4	907.1	790.4	791.6	808.1	823.4	829.7	832.2	827.2
42.5°	6173.3	2797.4	987.0	853.8	754.9	763.7	771.3	782.8	809.4	827.2	824.6
45°	6251.9	2542.4	923.6	787.8	730.7	734.6	732.0	752.3	784.0	810.7	810.7
47.5°	6324.3	2333.1	871.6	721.9	706.6	706.6	699.0	719.3	748.5	780.2	782.8
50°	6392.8	2197.3	834.8	671.1	676.2	672.4	669.9	688.9	728.2	766.3	772.6
52.5°	6462.5	2151.6	801.8	634.3	644.5	639.4	641.9	668.6	713.0	752.3	758.7
55°	6560.2	2180.8	767.5	609.0	614.0	612.8	622.9	653.4	692.7	732.0	734.6
57.5°	6680.7	2287.4	738.4	589.9	584.9	592.5	609.0	638.1	676.2	723.1	726.9
58°	6704.8	2312.8	733.3	584.9	578.5	589.9	606.4	634.3	673.7	723.1	726.9
60°	6741.6	2402.8	720.6	574.7	556.9	577.2	597.5	625.4	668.6	729.5	737.1
62.5°	6564.0	2420.6	716.8	563.3	534.1	559.5	583.6	615.3	663.5	751.0	767.5
65°	5948.7	2237.9	690.1	544.3	515.1	545.5	570.9	607.7	678.7	815.7	823.4
67.5°	4775.2	1858.6	625.4	515.1	493.5	529.0	560.7	607.7	685.1	825.9	831.0
70°	3283.3	1396.8	544.3	483.4	468.1	508.7	556.9	621.6	663.5	781.5	766.3
72.5°	1715.2	971.8	477.0	446.6	437.7	491.0	593.7	607.7	638.1	729.5	714.3
75°	864.0	661.0	419.9	404.7	403.4	484.6	664.8	584.9	611.5	686.3	719.3
77.5°	510.0	517.6	374.3	365.4	371.7	473.2	666.0	562.0	581.0	631.8	667.3
80°	348.9	427.5	338.7	336.2	341.3	435.1	614.0	534.1	545.5	597.5	635.6
82.5°	196.6	236.0	296.9	313.4	310.8	356.5	530.3	485.9	499.9	706.6	747.2
85°	95.1	142.1	248.7	293.1	265.1	237.2	431.3	431.3	435.1	506.2	512.5
87.5°	35.5	63.4	167.5	232.2	185.2	142.1	293.1	305.7	340.0	350.1	357.8
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)