

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: P270654

Luminaire Tested: **NAV-AF-06-D-UNV-AFL-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270654
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-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21127.4 lumens
Efficiency: N/A
Efficacy: 109.5 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): 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

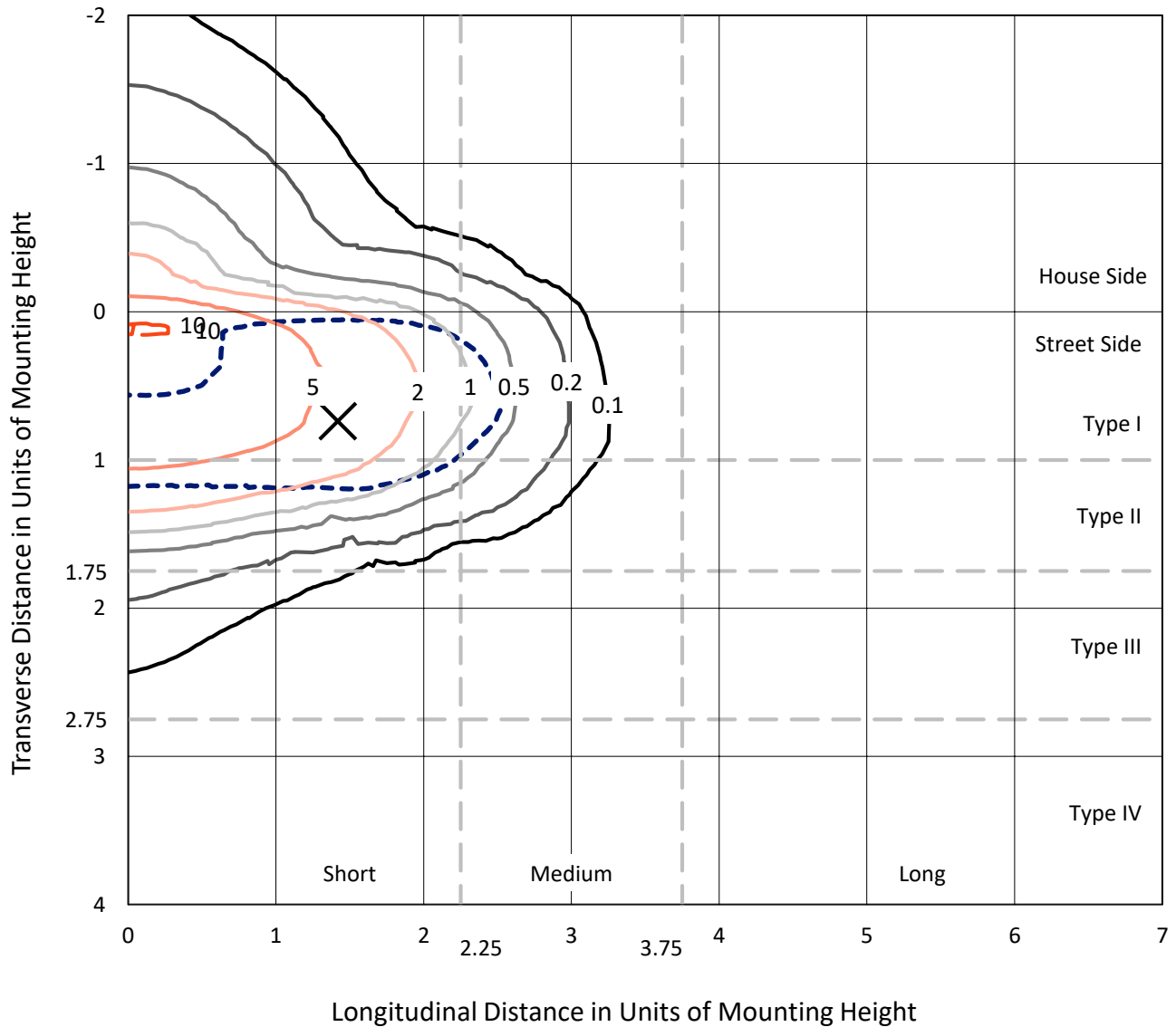


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Iso-Footcandle Lines of Horizontal Illumination

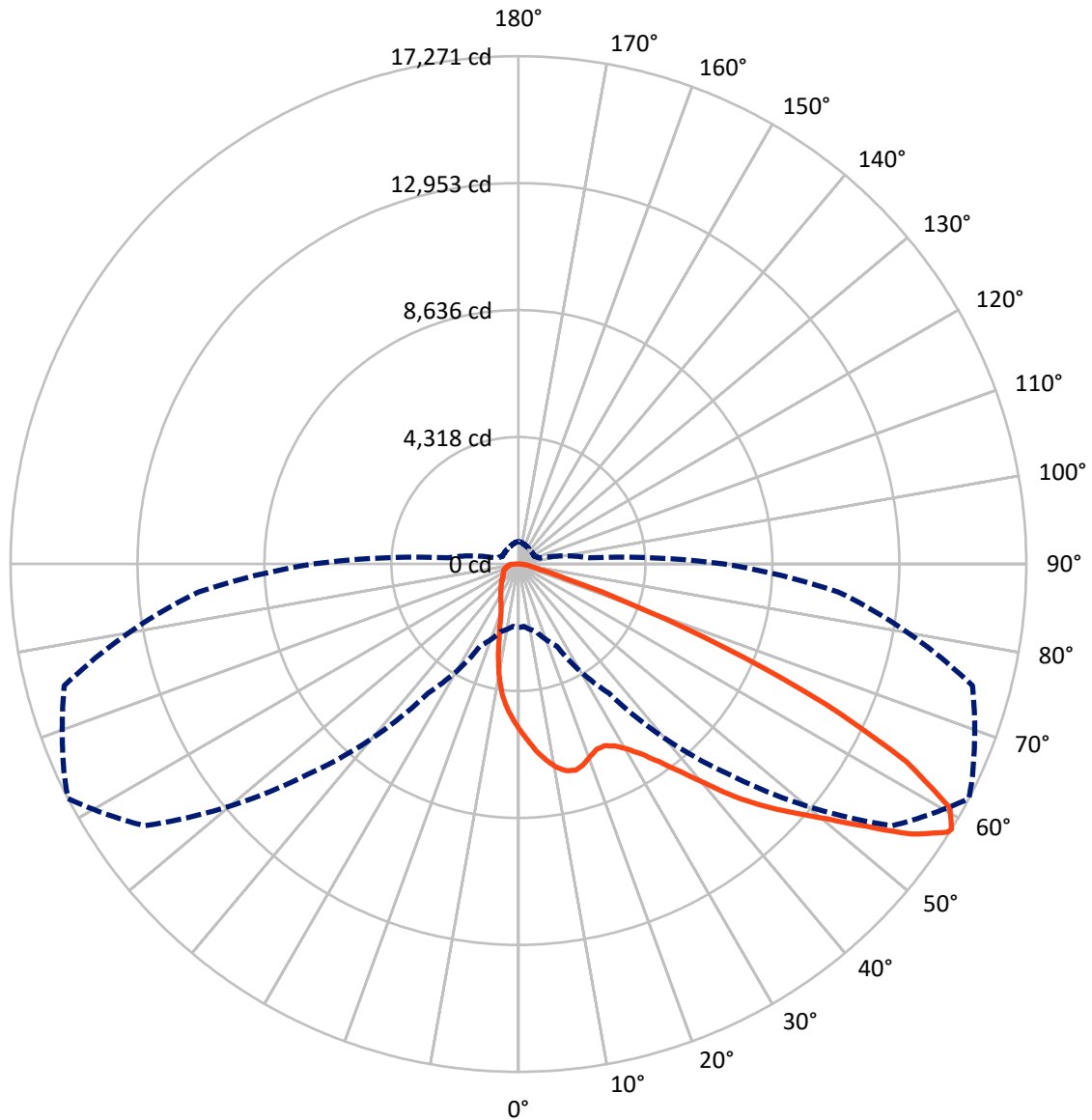
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.6 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	3243.8	0.0	3243.8
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	17883.5	0.0	17883.5
	% Fixture	84.6	0.0	84.6
Total	Lumens	21127.4	0.0	21127.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	504.2	2.4
10°-20°	1272.5	6.0
20°-30°	2062.2	9.8
30°-40°	3292.5	15.6
40°-50°	4789.0	22.7
50°-60°	5011.3	23.7
60°-70°	3055.0	14.5
70°-80°	854.3	4.0
80°-90°	286.4	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°	21127.4	100.0
0°-180°	21127.4	100.0

Coefficient of Utilization



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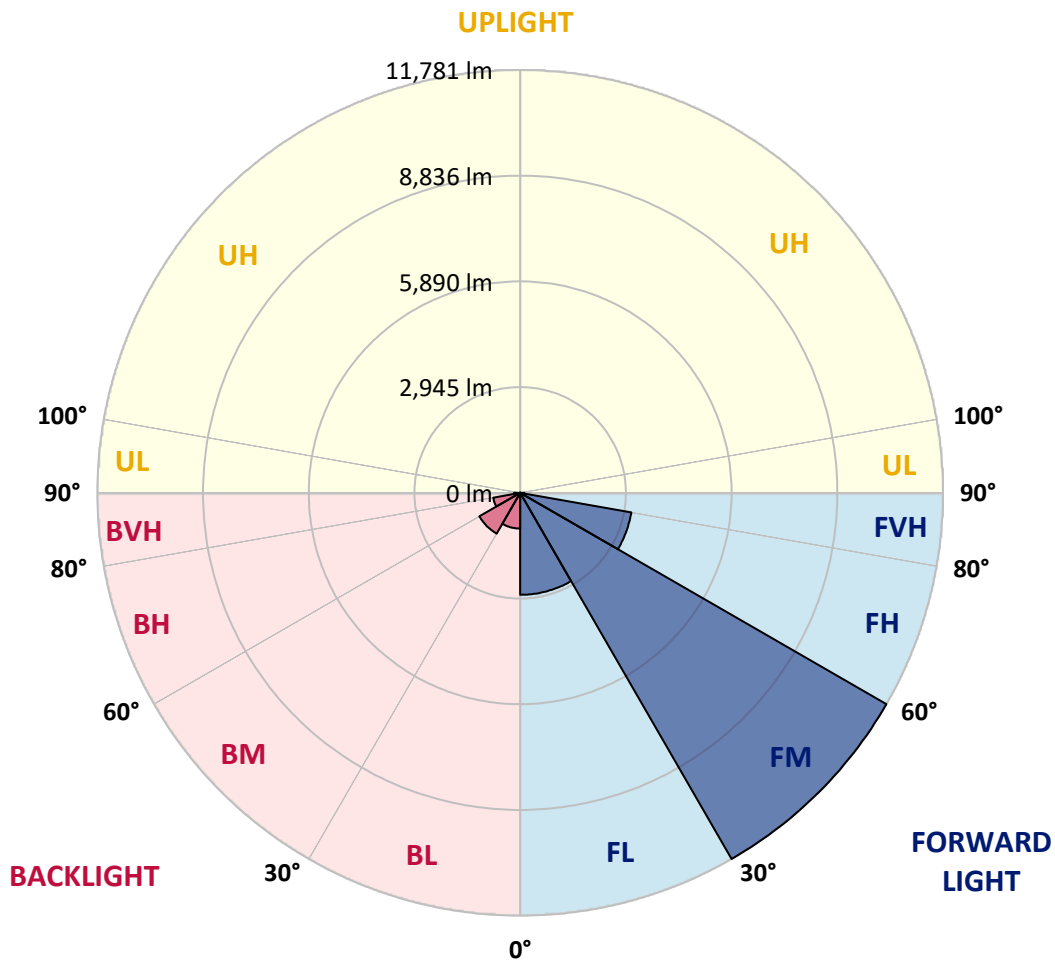
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2841.7	13.5			
FM	(30°-60°)	11780.9	55.8			
FH	(60°-80°)	3145.7	14.9			G2/5000
FVH	(80°-90°)	115.2	0.5			G2/225
BL	(0°-30°)	997.2	4.7	B2/1000		
BM	(30°-60°)	1311.8	6.2	B2/2500		
BH	(60°-80°)	763.6	3.6	B2/1000		G2/1000
BVH	(80°-90°)	171.2	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°	5640.8	5640.8	5640.8	5640.8	5640.8	5640.8	5640.8	5640.8	5640.8	5640.8	5640.8
2.5°	6402.8	6398.7	6344.6	6308.9	6266.8	6169.0	6071.4	5998.7	5961.7	5820.5	5683.1
5°	6932.2	6916.4	6886.0	6847.7	6792.3	6669.5	6515.0	6381.6	6328.7	6077.9	5825.7
7.5°	6652.3	6677.5	6771.2	6876.7	6987.6	6995.6	6886.0	6727.5	6669.5	6334.0	5964.3
10°	5877.3	5866.7	5984.1	6190.2	6555.9	6917.7	7098.6	7020.8	6960.0	6577.0	6103.1
12.5°	5642.2	5639.6	5659.3	5712.1	5941.8	6438.4	7044.5	7213.5	7192.4	6834.6	6250.9
15°	5713.5	5716.2	5714.7	5721.5	5784.7	6021.2	6742.0	7278.2	7344.3	7089.3	6401.4
17.5°	5941.8	5932.6	5903.7	5872.0	5881.3	5965.7	6416.0	7167.2	7365.4	7316.4	6528.3
20°	6294.5	6294.5	6216.6	6128.1	6069.9	6088.5	6280.0	6977.1	7267.6	7509.3	6623.3
22.5°	6736.7	6743.4	6628.6	6467.4	6335.4	6285.3	6357.8	6835.8	7148.8	7687.5	6707.7
25°	7286.2	7284.9	7117.1	6886.0	6677.5	6557.3	6555.9	6842.5	7111.8	7896.1	6796.2
27.5°	7966.1	7904.0	7708.6	7379.8	7085.4	6901.9	6818.7	7008.8	7189.8	8152.3	6915.2
30°	8733.3	8669.9	8413.7	7991.2	7592.5	7324.4	7187.1	7296.8	7427.4	8478.5	7094.6
32.5°	9492.6	9507.1	9206.0	8729.4	8217.1	7839.4	7636.0	7703.3	7794.6	8877.2	7337.6
35°	10604.3	10603.1	10209.5	9614.0	9005.2	8482.4	8224.9	8260.6	8343.7	9439.7	7678.4
37.5°	11433.5	11420.4	11166.9	10640.1	9954.7	9327.6	8955.2	8960.5	9031.6	10146.1	8127.2
40°	11518.1	11515.5	11514.1	11438.8	10970.1	10378.6	9912.4	9816.0	9845.2	10896.3	8603.8
42.5°	10872.4	10968.8	11246.2	11671.3	11802.0	11491.7	11050.7	10835.4	10772.0	11757.0	9108.4
45°	9952.1	10000.9	10486.9	11442.8	12220.5	12537.5	12206.0	11751.7	11643.6	12594.2	9519.0
47.5°	9524.3	9503.1	9784.3	10826.3	12179.6	13369.4	13393.1	12648.3	12464.8	13316.6	9868.9
50°	8606.5	8578.9	8934.1	9919.1	11733.3	13782.7	14611.9	13625.5	13286.1	14003.1	10185.8
52.5°	6777.7	6751.3	7228.0	8497.0	10735.0	13628.1	15639.1	14824.5	14246.1	14664.7	10481.6
55°	4410.1	4412.8	4867.0	6175.7	8687.1	12727.6	16121.2	16209.6	15561.2	15326.3	10720.6
57.5°	2428.3	2405.8	2729.3	3533.5	5976.2	10682.3	15719.7	17207.8	16869.8	15894.0	10893.6
58°	2158.8	2132.4	2382.0	3075.3	5358.3	10105.3	15517.7	17271.3	17037.4	15987.8	10918.5
60°	1538.3	1493.4	1455.2	1733.6	3087.1	7286.2	14170.9	16860.6	17086.3	16175.2	10894.9
62.5°	1296.7	1245.2	1107.8	1097.3	1453.7	3563.8	11206.4	14807.3	15439.8	15743.4	10512.0
65°	1204.3	1152.7	971.8	907.1	986.3	1538.3	6929.6	11433.5	12278.7	14242.2	9548.1
67.5°	1138.2	1077.4	883.4	798.9	814.8	920.4	2940.6	7477.6	8457.4	11106.1	7659.8
70°	1078.8	1011.4	813.3	715.7	702.5	699.8	1148.8	3904.6	4848.6	7267.6	5131.2
72.5°	1011.4	945.5	751.3	647.0	617.9	567.8	690.5	1613.5	2211.6	3562.5	2351.8
75°	913.8	859.6	682.6	590.2	540.1	460.8	509.7	773.8	953.3	1363.9	1092.0
77.5°	804.2	760.5	612.6	542.7	475.4	376.3	389.5	524.3	588.8	768.5	632.4
80°	569.0	584.9	534.9	478.0	418.6	303.6	299.8	384.2	422.6	516.3	425.2
82.5°	392.2	404.1	435.8	377.6	338.0	236.3	220.5	266.7	286.5	311.6	206.0
85°	279.9	271.9	302.4	270.7	248.2	150.6	141.4	169.1	180.9	190.1	99.1
87.5°	170.3	169.1	174.4	140.0	129.4	76.5	70.0	80.6	85.8	83.3	47.5
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°	5640.8	5640.8	5640.8	5640.8	5640.8	5640.8	5640.8	5640.8	5640.8	5640.8	5640.8
2.5°	5631.7	5566.9	5425.7	5312.0	5189.2	5095.5	5001.9	4948.9	4890.8	4857.9	4853.9
5°	5693.6	5561.6	5260.6	4980.7	4692.7	4434.0	4180.5	3993.0	3839.9	3752.7	3747.4
7.5°	5762.4	5555.1	5090.2	4605.7	4093.3	3583.7	3133.4	2815.2	2610.5	2515.4	2508.7
10°	5815.2	5527.4	4882.9	4129.0	3316.9	2643.5	2234.2	2046.7	1984.5	1968.7	1966.1
12.5°	5878.6	5507.5	4621.5	3517.7	2535.2	2012.4	1888.1	1876.3	1889.6	1897.5	1898.7
15°	5937.9	5469.2	4268.9	2840.3	1984.5	1798.4	1801.0	1826.2	1852.6	1864.4	1865.8
17.5°	5965.7	5375.5	3805.5	2238.1	1736.3	1702.0	1732.4	1765.3	1789.2	1798.4	1798.4
20°	5965.7	5224.9	3268.0	1813.0	1607.0	1613.5	1650.5	1675.6	1680.9	1673.0	1669.1
22.5°	5940.6	5038.8	2745.2	1581.8	1501.3	1526.4	1555.4	1538.3	1476.3	1428.8	1419.4
25°	5918.2	4818.2	2242.1	1440.6	1408.9	1441.9	1430.0	1312.6	1217.5	1168.5	1160.7
27.5°	5881.3	4551.5	1822.2	1324.5	1319.2	1345.5	1228.1	1114.4	1066.8	1040.4	1035.1
30°	5872.0	4262.4	1525.1	1221.3	1230.7	1193.7	1059.0	1022.0	1011.4	996.8	990.3
32.5°	5902.4	3973.2	1339.0	1136.8	1146.1	1024.6	973.1	978.4	977.1	958.6	952.1
35°	5985.4	3691.9	1220.1	1060.3	1033.9	917.7	924.3	940.2	940.2	917.7	909.8
37.5°	6130.8	3430.4	1144.8	995.6	904.6	862.3	879.4	900.6	900.6	884.7	878.2
40°	6285.3	3175.6	1088.0	944.1	822.6	823.9	841.2	857.0	863.6	866.1	860.9
42.5°	6425.1	2911.5	1027.3	888.7	785.7	794.9	802.8	814.8	842.4	860.9	858.3
45°	6507.1	2646.1	961.2	820.1	760.5	764.5	761.9	783.1	816.0	843.8	843.8
47.5°	6582.3	2428.3	907.1	751.3	735.5	735.5	727.5	748.6	779.1	812.1	814.8
50°	6653.7	2286.9	868.8	698.5	703.8	699.8	697.2	716.9	757.9	797.5	804.2
52.5°	6726.2	2239.5	834.5	660.3	670.8	665.6	668.1	695.8	742.1	783.1	789.6
55°	6827.9	2269.7	798.9	633.8	639.1	637.7	648.3	680.0	721.0	761.9	764.5
57.5°	6953.4	2380.8	768.5	614.0	608.7	616.6	633.8	664.1	703.8	752.6	756.6
58°	6978.5	2407.2	763.2	608.7	602.1	614.0	631.1	660.3	701.1	752.6	756.6
60°	7016.8	2500.9	750.1	598.1	579.6	600.7	621.9	651.0	695.8	759.2	767.2
62.5°	6831.9	2519.3	746.0	586.2	556.0	582.3	607.4	640.4	690.5	781.6	798.9
65°	6191.5	2329.2	718.4	566.6	536.1	567.8	594.1	632.4	706.4	849.1	857.0
67.5°	4970.1	1934.4	651.0	536.1	513.7	550.7	583.5	632.4	713.1	859.6	864.9
70°	3417.2	1453.7	566.6	503.1	487.2	529.6	579.6	647.0	690.5	813.3	797.5
72.5°	1785.2	1011.4	496.5	464.9	455.5	511.0	617.9	632.4	664.1	759.2	743.3
75°	899.3	687.9	437.0	421.2	419.9	504.4	692.0	608.7	636.4	714.3	748.6
77.5°	530.8	538.8	389.5	380.3	386.9	492.5	693.2	584.9	604.7	657.6	694.5
80°	363.2	445.0	352.6	349.9	355.2	452.9	639.1	556.0	567.8	621.9	661.5
82.5°	204.6	245.5	308.9	326.2	323.5	371.0	552.0	505.7	520.3	735.5	777.8
85°	99.1	148.0	258.8	305.1	276.0	246.9	449.0	449.0	452.9	526.9	533.5
87.5°	37.0	66.0	174.4	241.6	192.7	148.0	305.1	318.2	353.9	364.4	372.3
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)