

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: P270493

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270493
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21718.2 lumens
Efficiency: N/A
Efficacy: 96.5 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

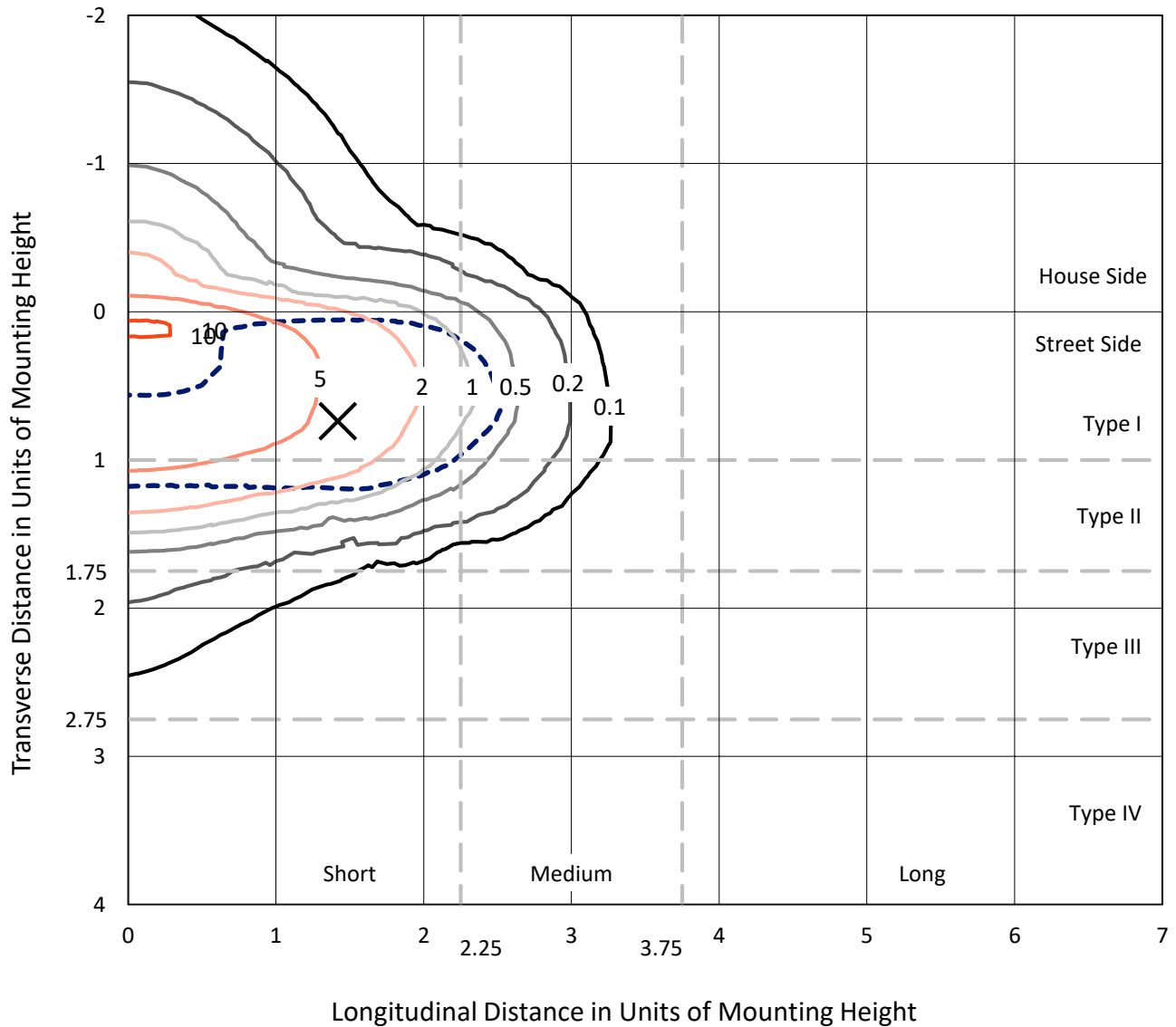
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P270493
 CATALOG NUMBER: NAV-AF-04-D-UNV-AFL-7027

Iso-Footcandle Lines of Horizontal Illumination

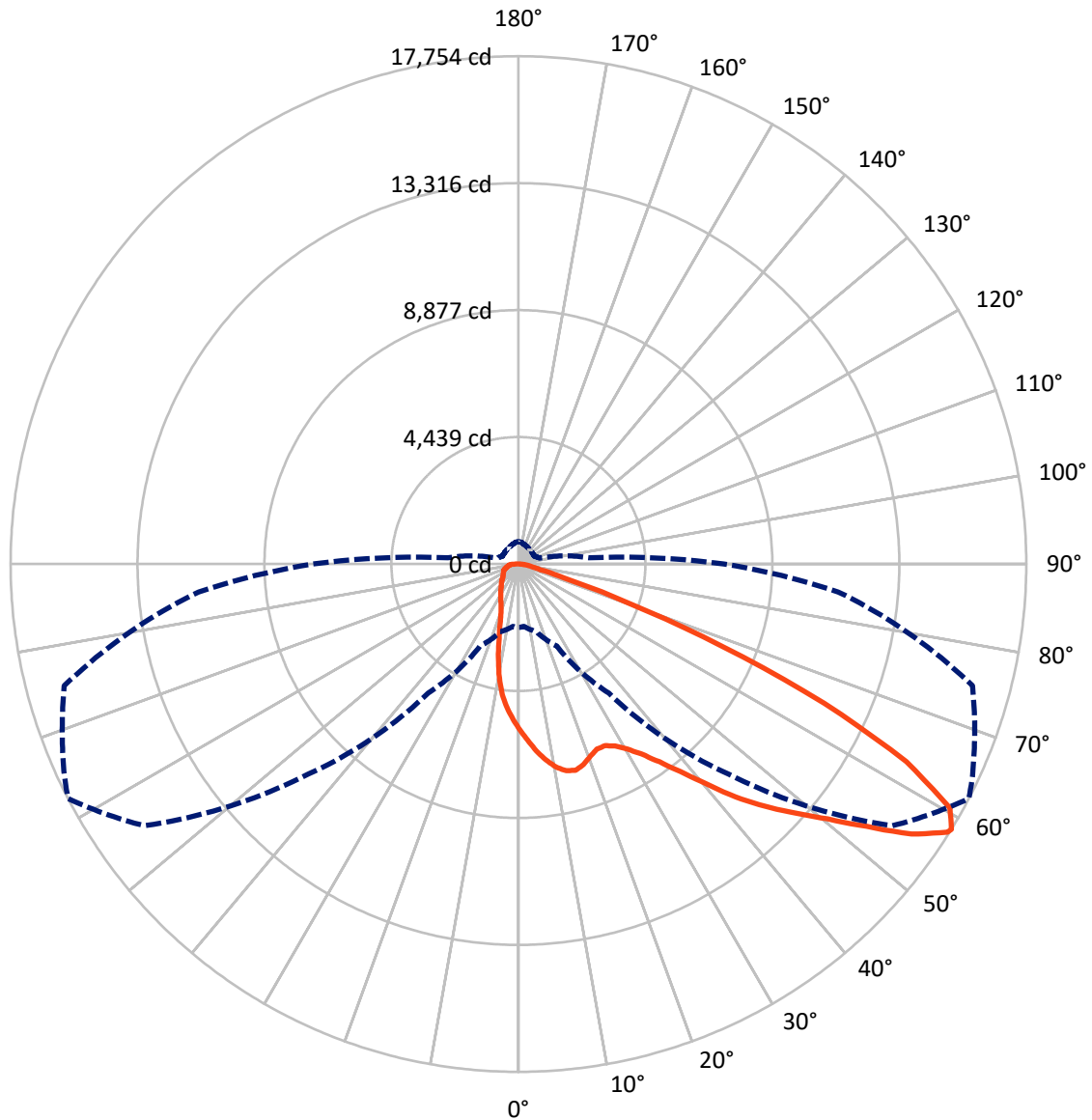
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.9 fc
 Type II - Short - Full Cutoff

REPORT NUMBER: P270493
CATALOG NUMBER: NAV-AF-04-D-UNV-AFL-7027

Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

REPORT NUMBER: P270493

CATALOG NUMBER: NAV-AF-04-D-UNV-AFL-7027

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3334.6	0.0	3334.6
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	18383.7	0.0	18383.7
	% Fixture	84.6	0.0	84.6
Total	Lumens	21718.2	0.0	21718.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	518.3	2.4
10°-20°	1308.1	6.0
20°-30°	2119.9	9.8
30°-40°	3384.5	15.6
40°-50°	4922.9	22.7
50°-60°	5151.4	23.7
60°-70°	3140.5	14.5
70°-80°	878.2	4.0
80°-90°	294.4	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°	21718.2	100.0
0°-180°	21718.2	100.0



REPORT NUMBER: P270493

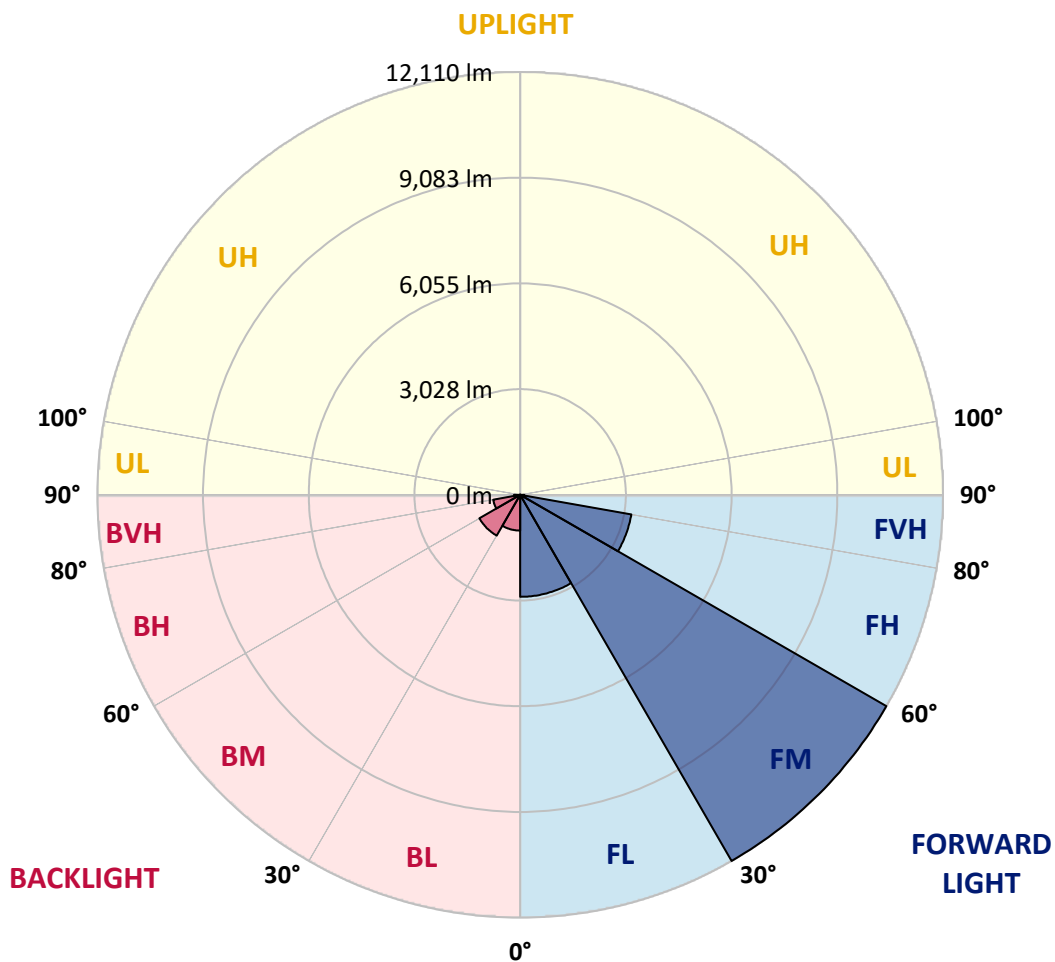
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2921.2	13.5			
FM	(30°-60°)	12110.3	55.8			
FH	(60°-80°)	3233.7	14.9			G2/5000
FVH	(80°-90°)	118.4	0.5			G2/225
BL	(0°-30°)	1025.1	4.7	B3/2500		
BM	(30°-60°)	1348.5	6.2	B2/2500		
BH	(60°-80°)	785.0	3.6	B2/1000		G2/1000
BVH	(80°-90°)	176.0	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





REPORT NUMBER: P270493

CATALOG NUMBER: NAV-AF-04-D-UNV-AFL-7027

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	5798.6	5798.6	5798.6	5798.6	5798.6	5798.6	5798.6	5798.6	5798.6	5798.6	5798.6
2.5°	6581.8	6577.7	6522.1	6485.5	6442.0	6341.6	6241.2	6166.4	6128.4	5983.3	5842.0
5°	7126.2	7109.8	7078.6	7039.3	6982.3	6856.0	6697.3	6560.1	6505.9	6247.9	5988.6
7.5°	6838.3	6864.2	6960.4	7069.1	7183.1	7191.3	7078.6	6915.7	6856.0	6511.3	6131.2
10°	6041.6	6030.7	6151.6	6363.2	6739.3	7111.3	7297.1	7217.1	7154.6	6761.1	6273.8
12.5°	5799.9	5797.2	5817.7	5872.0	6108.0	6618.4	7241.4	7415.1	7393.5	7025.6	6425.8
15°	5873.3	5876.1	5874.6	5881.5	5946.6	6189.5	6930.7	7481.8	7549.6	7287.6	6580.4
17.5°	6108.0	6098.7	6068.7	6036.2	6045.7	6132.5	6595.4	7367.7	7571.4	7521.1	6710.8
20°	6470.5	6470.5	6390.5	6299.5	6239.7	6258.9	6455.6	7172.2	7470.8	7719.2	6808.6
22.5°	6925.3	6932.0	6814.0	6648.4	6512.6	6461.0	6535.7	7027.0	7348.8	7902.5	6895.4
25°	7489.9	7488.5	7316.2	7078.6	6864.2	6740.6	6739.3	7033.8	7310.8	8116.9	6986.3
27.5°	8188.9	8125.1	7924.3	7586.2	7283.5	7095.0	7009.4	7204.9	7390.7	8380.3	7108.5
30°	8977.5	8912.4	8649.2	8214.7	7804.8	7529.2	7388.1	7500.8	7635.1	8715.5	7293.1
32.5°	9758.0	9773.0	9463.5	8973.4	8446.9	8058.6	7849.6	7918.7	8012.4	9125.5	7542.8
35°	10900.9	10899.6	10495.1	9883.0	9257.2	8719.7	8454.9	8491.6	8577.1	9703.8	7893.0
37.5°	11753.3	11739.8	11479.1	10937.6	10233.1	9588.4	9205.7	9211.0	9284.3	10430.0	8354.5
40°	11840.2	11837.4	11836.2	11758.8	11277.0	10668.8	10189.7	10090.7	10120.5	11200.8	8844.5
42.5°	11176.4	11275.5	11560.6	11997.7	12132.1	11813.2	11359.6	11138.4	11073.2	12085.8	9363.0
45°	10230.3	10280.7	10780.1	11762.9	12562.3	12888.2	12547.3	12080.4	11969.1	12946.5	9785.1
47.5°	9790.5	9768.9	10058.1	11128.9	12520.2	13743.2	13767.7	13002.1	12813.5	13688.9	10144.9
50°	8847.2	8818.8	9183.8	10196.4	12061.5	14168.1	15020.5	14006.6	13657.7	14394.8	10470.6
52.5°	6967.3	6940.1	7430.2	8734.6	11035.3	14009.2	16076.4	15239.0	14644.4	15074.7	10774.7
55°	4533.6	4536.4	5003.2	6348.3	8930.1	13083.5	16571.9	16662.9	15996.5	15754.8	11020.3
57.5°	2496.2	2473.2	2805.6	3632.2	6143.4	10981.1	16159.3	17689.1	17341.6	16338.6	11198.2
58°	2219.3	2192.1	2448.7	3161.2	5508.1	10387.8	15951.7	17754.2	17514.0	16434.9	11224.0
60°	1581.3	1535.2	1495.8	1782.1	3173.5	7489.9	14567.2	17332.1	17564.2	16627.5	11199.6
62.5°	1332.9	1279.9	1138.8	1127.9	1494.4	3663.5	11519.9	15221.4	15871.6	16183.8	10805.9
65°	1238.0	1185.0	999.0	932.5	1013.9	1581.3	7123.4	11753.3	12622.1	14640.4	9815.1
67.5°	1170.0	1107.6	908.0	821.2	837.5	946.0	3022.8	7686.6	8693.8	11416.6	7874.1
70°	1109.0	1039.8	836.1	735.7	722.1	719.5	1180.9	4013.6	4984.2	7470.8	5274.7
72.5°	1039.8	971.8	772.4	665.1	635.2	583.7	709.9	1658.7	2273.6	3662.1	2417.5
75°	939.3	883.7	701.8	606.7	555.2	473.8	523.9	795.4	980.1	1402.2	1122.5
77.5°	826.6	781.9	629.8	557.8	488.7	386.8	400.5	538.9	605.4	790.0	650.2
80°	585.1	601.3	549.8	491.4	430.3	312.3	308.1	395.0	434.3	530.7	437.0
82.5°	403.1	415.3	448.0	388.2	347.5	243.0	226.7	274.3	294.6	320.3	211.7
85°	287.7	279.6	310.9	278.3	255.2	154.8	145.3	173.7	185.9	195.4	101.8
87.5°	175.1	173.7	179.2	143.9	132.9	78.7	72.0	82.9	88.3	85.5	48.9
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°	5798.6	5798.6	5798.6	5798.6	5798.6	5798.6	5798.6	5798.6	5798.6	5798.6	5798.6
2.5°	5789.1	5722.7	5577.3	5460.6	5334.4	5238.0	5141.7	5087.5	5027.6	4993.7	4989.6
5°	5852.8	5717.3	5407.6	5119.9	4824.1	4558.0	4297.4	4104.6	3947.2	3857.6	3852.2
7.5°	5923.6	5710.3	5232.5	4734.4	4207.8	3683.9	3221.1	2893.9	2683.4	2585.9	2578.9
10°	5977.9	5681.9	5019.5	4244.4	3409.6	2717.5	2296.6	2103.9	2040.1	2023.8	2021.0
12.5°	6043.0	5661.6	4750.7	3615.9	2606.2	2068.5	1941.0	1928.8	1942.3	1950.5	1951.8
15°	6104.1	5622.1	4388.3	2919.8	2040.1	1848.7	1851.4	1877.2	1904.3	1916.5	1917.9
17.5°	6132.5	5525.8	3911.8	2300.6	1784.9	1749.5	1780.9	1814.8	1839.2	1848.7	1848.7
20°	6132.5	5371.1	3359.4	1863.7	1652.0	1658.7	1696.7	1722.5	1727.9	1719.7	1715.8
22.5°	6106.8	5179.6	2821.9	1626.1	1543.3	1569.1	1599.0	1581.3	1517.5	1468.6	1459.1
25°	6083.7	4953.0	2304.8	1480.9	1448.2	1482.3	1470.0	1349.3	1251.5	1201.3	1193.0
27.5°	6045.7	4678.8	1873.1	1361.4	1356.0	1383.1	1262.4	1145.6	1096.7	1069.6	1064.1
30°	6036.2	4381.6	1567.7	1255.6	1265.1	1227.1	1088.6	1050.6	1039.8	1024.7	1018.0
32.5°	6067.4	4084.2	1376.4	1168.7	1178.1	1053.4	1000.4	1005.8	1004.5	985.4	978.7
35°	6152.9	3795.2	1254.3	1090.0	1062.9	943.4	950.1	966.4	966.4	943.4	935.2
37.5°	6302.1	3526.3	1176.8	1023.4	929.7	886.4	904.1	925.8	925.8	909.4	902.6
40°	6461.0	3264.4	1118.5	970.4	845.7	847.0	864.6	880.9	887.7	890.4	885.0
42.5°	6604.9	2993.0	1056.0	913.4	807.7	817.1	825.3	837.5	866.0	885.0	882.2
45°	6689.0	2720.2	988.1	842.9	781.9	785.8	783.2	804.9	838.8	867.4	867.4
47.5°	6766.5	2496.2	932.5	772.4	756.1	756.1	747.8	769.6	800.7	834.7	837.5
50°	6839.8	2351.0	893.2	718.0	723.5	719.5	716.7	737.1	779.1	819.9	826.6
52.5°	6914.3	2302.0	857.8	678.7	689.4	684.1	686.8	715.3	762.8	804.9	811.7
55°	7018.8	2333.3	821.2	651.5	657.0	655.7	666.5	699.1	741.1	783.2	785.8
57.5°	7147.9	2447.3	790.0	631.1	625.7	633.8	651.5	682.7	723.5	773.7	777.8
58°	7173.7	2474.4	784.6	625.7	618.9	631.1	648.8	678.7	720.8	773.7	777.8
60°	7213.0	2570.8	770.9	614.9	595.8	617.6	639.4	669.1	715.3	780.4	788.6
62.5°	7022.9	2589.9	767.0	602.7	571.4	598.6	624.4	658.3	709.9	803.5	821.2
65°	6364.6	2394.4	738.3	582.3	551.1	583.7	610.8	650.2	726.2	872.8	880.9
67.5°	5109.1	1988.5	669.1	551.1	528.1	566.0	600.0	650.2	732.9	883.7	889.1
70°	3512.8	1494.4	582.3	517.2	500.9	544.4	595.8	665.1	709.9	836.1	819.9
72.5°	1835.1	1039.8	510.3	477.8	468.2	525.2	635.2	650.2	682.7	780.4	764.2
75°	924.4	707.1	449.3	433.1	431.6	518.5	711.3	625.7	654.2	734.4	769.6
77.5°	545.7	553.9	400.5	390.9	397.7	506.3	712.6	601.3	621.6	676.0	714.0
80°	373.2	457.4	362.5	359.7	365.2	465.6	657.0	571.4	583.7	639.4	680.0
82.5°	210.5	252.5	317.6	335.2	332.6	381.4	567.4	519.8	534.9	756.1	799.5
85°	101.8	152.1	266.1	313.6	283.7	253.9	461.5	461.5	465.6	541.6	548.3
87.5°	38.0	67.8	179.2	248.4	198.2	152.1	313.6	327.2	363.8	374.7	382.8
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)