

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: P195065

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195065
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30810 lumens
Efficiency: N/A
Efficacy: 110.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B3 - U0 - G3

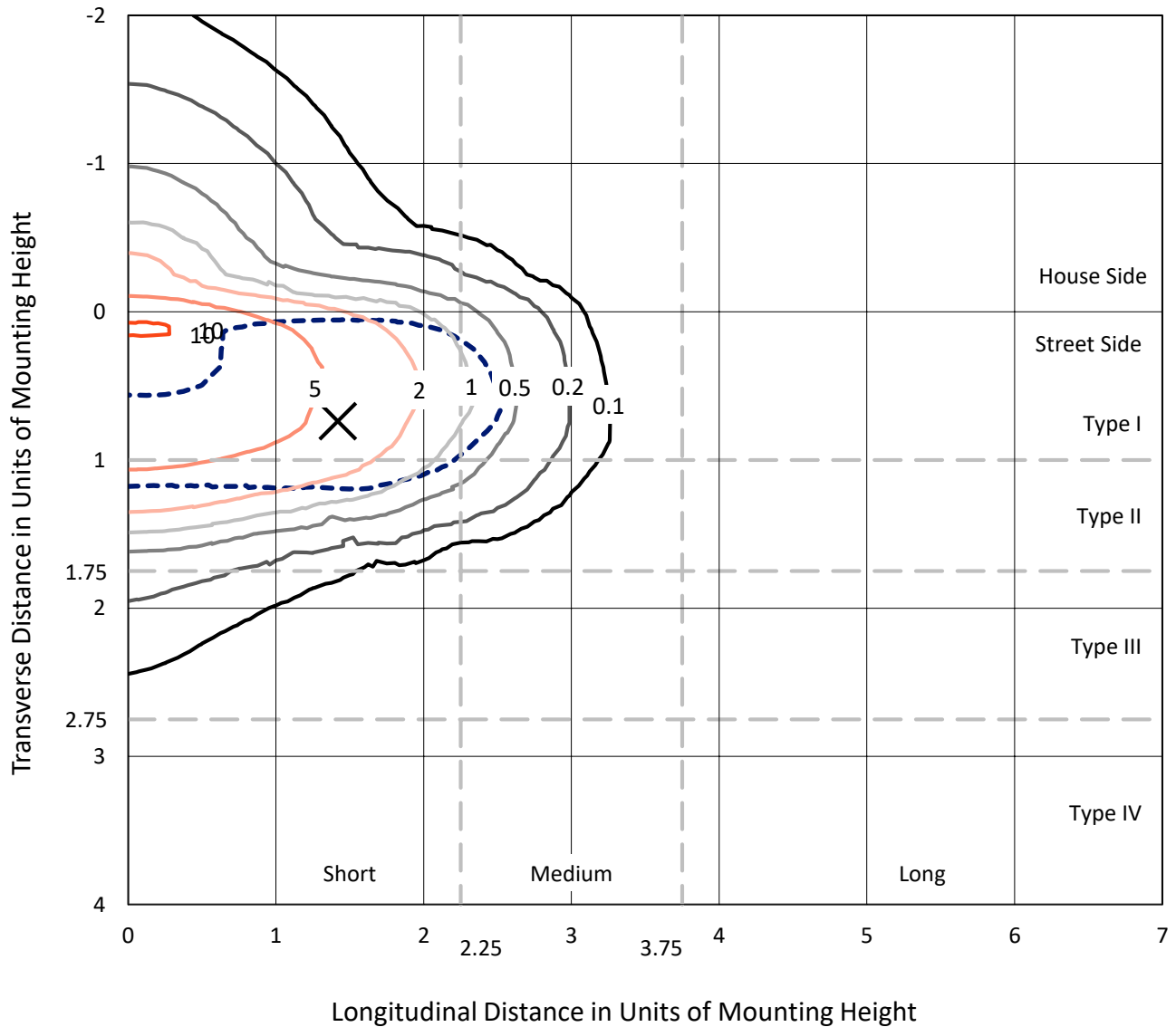
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

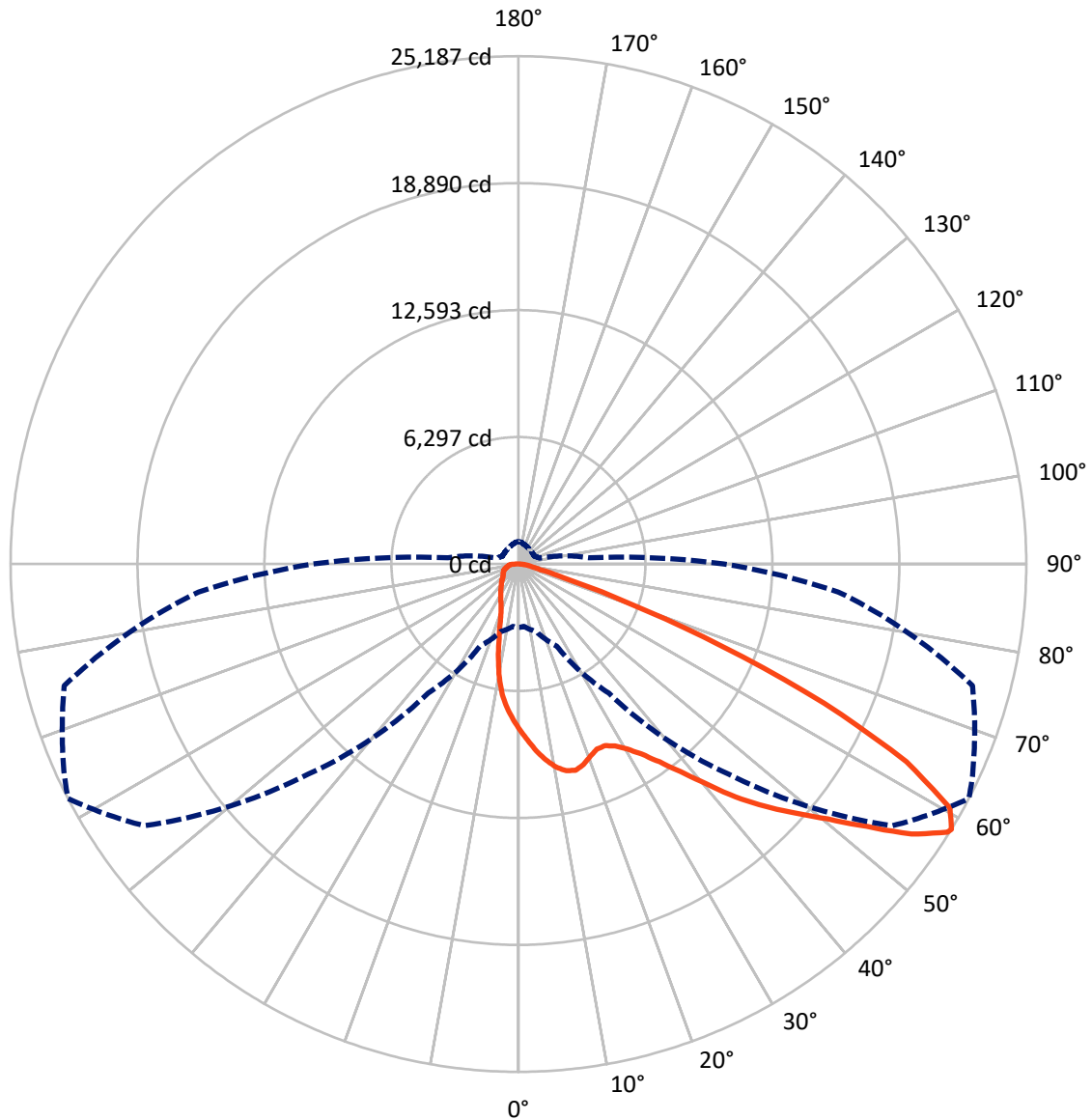
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 10.7 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	4730.5	0.0	4730.5
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	26079.5	0.0	26079.5
	% Fixture	84.6	0.0	84.6
Total	Lumens	30810.0	0.0	30810.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	735.3	2.4
10°-20°	1855.6	6.0
20°-30°	3007.3	9.8
30°-40°	4801.4	15.6
40°-50°	6983.8	22.7
50°-60°	7307.9	23.7
60°-70°	4455.2	14.5
70°-80°	1245.9	4.0
80°-90°	417.6	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°	30810.0	100.0
0°-180°	30810.0	100.0



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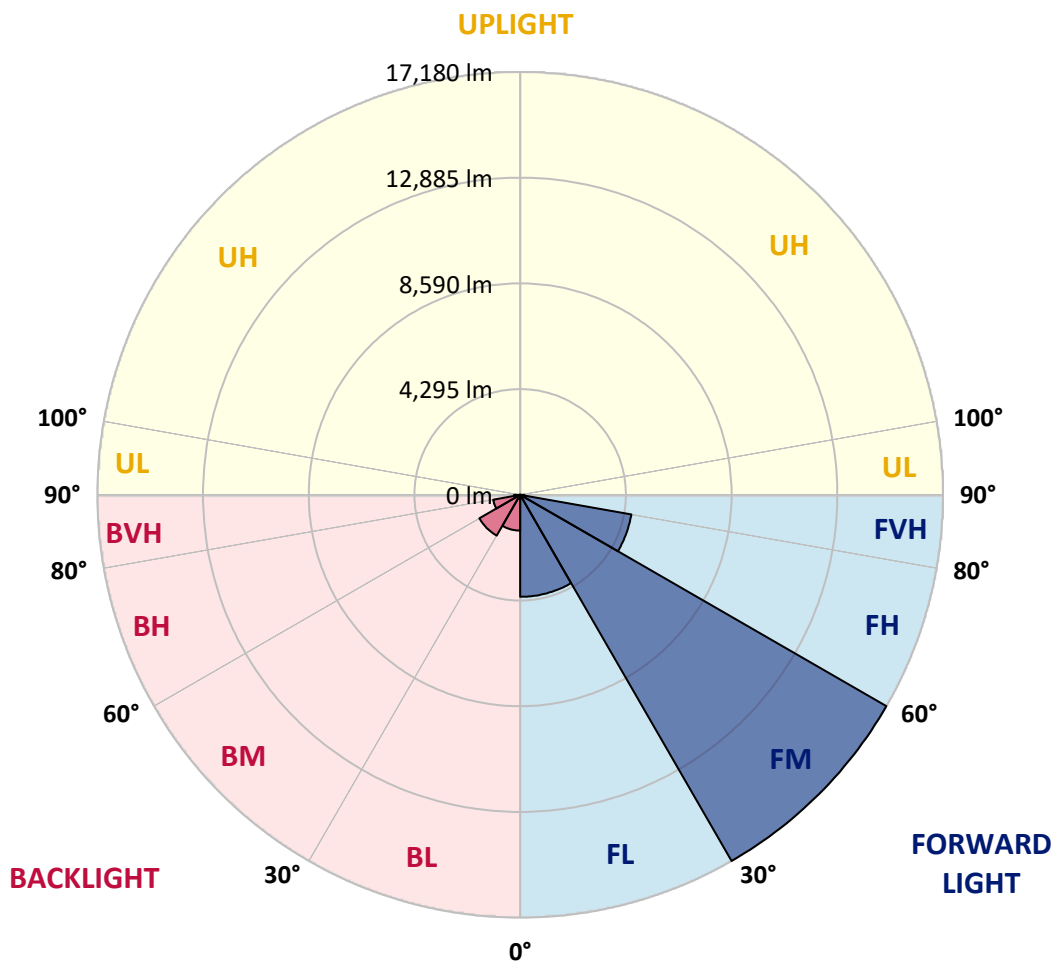
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	4144.0	13.5			
FM (30°-60°)	17180.0	55.8			
FH (60°-80°)	4587.4	14.9			G2/5000
FVH (80°-90°)	168.0	0.5			G2/225
BL (0°-30°)	1454.2	4.7	B3/2500		
BM (30°-60°)	1913.1	6.2	B2/2500		
BH (60°-80°)	1113.6	3.6	B3/2500		G3/2500
BVH (80°-90°)	249.6	0.8			G3/500
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	8226.1	8226.1	8226.1	8226.1	8226.1	8226.1	8226.1	8226.1	8226.1	8226.1	8226.1
2.5°	9337.1	9331.3	9252.4	9200.4	9138.8	8996.3	8853.8	8747.9	8694.0	8487.9	8287.7
5°	10109.3	10086.2	10041.9	9986.0	9905.2	9726.1	9500.8	9306.3	9229.3	8863.4	8495.6
7.5°	9701.1	9737.6	9874.4	10028.4	10190.2	10201.7	10041.9	9810.8	9726.1	9237.0	8697.8
10°	8570.7	8555.3	8726.7	9027.1	9560.5	10088.1	10351.9	10238.3	10149.7	9591.3	8900.0
12.5°	8228.0	8224.1	8253.0	8330.0	8665.1	9389.1	10273.0	10519.4	10488.6	9966.8	9115.7
15°	8332.0	8335.8	8333.9	8343.5	8436.0	8780.6	9832.0	10613.8	10710.1	10338.4	9335.2
17.5°	8665.1	8651.6	8609.3	8563.0	8576.5	8699.8	9356.4	10452.0	10740.9	10669.6	9520.1
20°	9179.2	9179.2	9065.6	8936.6	8851.9	8878.8	9158.0	10174.8	10598.4	10950.8	9658.7
22.5°	9824.3	9833.9	9666.4	9431.5	9238.9	9165.7	9271.7	9968.7	10425.1	11210.7	9781.9
25°	10625.3	10623.4	10378.9	10041.9	9737.6	9562.4	9560.5	9978.3	10371.2	11515.0	9910.9
27.5°	11617.0	11526.5	11241.5	10762.1	10332.6	10065.0	9943.7	10221.0	10484.8	11888.5	10084.3
30°	12735.8	12643.3	12269.8	11653.6	11072.1	10681.2	10480.9	10640.7	10831.4	12364.1	10346.1
32.5°	13843.0	13864.2	13425.1	12730.0	11982.9	11432.2	11135.6	11233.8	11366.7	12945.7	10700.4
35°	15464.3	15462.4	14888.6	14020.1	13132.4	12369.9	11994.4	12046.4	12167.7	13766.0	11197.2
37.5°	16673.6	16654.3	16284.6	15516.3	14516.9	13602.3	13059.3	13067.0	13171.0	14796.1	11851.9
40°	16796.8	16793.0	16791.0	16681.3	15997.7	15135.0	14455.3	14314.7	14357.1	15889.9	12547.1
42.5°	15855.2	15995.8	16400.1	17020.2	17210.8	16758.3	16115.2	15801.3	15708.9	17145.3	13282.6
45°	14513.1	14584.3	15292.9	16687.1	17821.2	18283.4	17800.0	17137.6	16979.7	18366.2	13881.5
47.5°	13889.2	13858.4	14268.5	15787.8	17761.5	19496.5	19531.1	18445.1	18177.5	19419.5	14391.8
50°	12550.9	12510.5	13028.5	14464.9	17110.7	20099.2	21308.4	19870.0	19375.2	20420.8	14853.9
52.5°	9884.0	9845.5	10540.6	12391.1	15654.9	19873.9	22806.5	21618.5	20775.1	21385.5	15285.2
55°	6431.4	6435.3	7097.7	9005.9	12668.4	18560.6	23509.4	23638.4	22692.9	22350.2	15633.8
57.5°	3541.1	3508.4	3980.2	5152.8	8715.2	15577.9	22924.0	25094.1	24601.2	23178.2	15886.0
58°	3148.3	3109.8	3473.7	4484.7	7814.0	14736.4	22629.4	25186.6	24845.7	23314.9	15922.6
60°	2243.3	2177.8	2122.0	2528.3	4502.0	10625.3	20665.3	24587.7	24917.0	23588.3	15887.9
62.5°	1890.9	1815.8	1615.6	1600.2	2120.1	5197.1	16342.4	21593.4	22515.8	22958.7	15329.5
65°	1756.1	1681.0	1417.2	1322.9	1438.4	2243.3	10105.4	16673.6	17905.9	20769.3	13923.9
67.5°	1659.8	1571.3	1288.2	1165.0	1188.1	1342.1	4288.3	10904.5	12333.3	16196.0	11170.3
70°	1573.2	1475.0	1186.2	1043.7	1024.4	1020.6	1675.3	5693.9	7070.7	10598.4	7482.8
72.5°	1475.0	1378.7	1095.7	943.5	901.2	828.0	1007.1	2353.1	3225.3	5195.2	3429.5
75°	1332.5	1253.6	995.5	860.7	787.6	672.0	743.3	1128.4	1390.3	1989.1	1592.5
77.5°	1172.7	1109.1	893.5	791.4	693.2	548.8	568.0	764.5	858.8	1120.7	922.4
80°	829.9	853.0	779.9	697.1	610.4	442.9	437.1	560.3	616.2	752.9	620.0
82.5°	571.9	589.2	635.4	550.7	492.9	344.7	321.6	389.0	417.9	454.4	300.4
85°	408.2	396.7	441.0	394.7	362.0	219.5	206.0	246.5	263.8	277.3	144.4
87.5°	248.4	246.5	254.2	204.1	188.7	111.7	102.1	117.5	125.2	121.3	69.3
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°	8226.1	8226.1	8226.1	8226.1	8226.1	8226.1	8226.1	8226.1	8226.1	8226.1	8226.1
2.5°	8212.6	8118.2	7912.2	7746.6	7567.5	7430.8	7294.1	7217.1	7132.3	7084.2	7078.4
5°	8303.1	8110.5	7671.5	7263.3	6843.5	6466.1	6096.4	5822.9	5599.6	5472.5	5464.8
7.5°	8403.2	8100.9	7423.1	6716.4	5969.3	5226.0	4569.4	4105.3	3806.9	3668.2	3658.6
10°	8480.2	8060.5	7120.8	6021.3	4837.1	3855.0	3258.1	2984.6	2894.1	2871.0	2867.2
12.5°	8572.7	8031.6	6739.5	5129.7	3697.1	2934.6	2753.6	2736.2	2755.5	2767.1	2769.0
15°	8659.3	7975.7	6225.4	4141.9	2894.1	2622.6	2626.5	2663.1	2701.6	2718.9	2720.8
17.5°	8699.8	7839.0	5549.5	3263.9	2532.1	2482.1	2526.4	2574.5	2609.2	2622.6	2622.6
20°	8699.8	7619.5	4765.8	2643.8	2343.4	2353.1	2407.0	2443.6	2451.3	2439.7	2433.9
22.5°	8663.2	7348.0	4003.3	2306.8	2189.4	2226.0	2268.3	2243.3	2152.8	2083.5	2070.0
25°	8630.4	7026.4	3269.6	2100.8	2054.6	2102.7	2085.4	1914.0	1775.4	1704.1	1692.6
27.5°	8576.5	6637.5	2657.3	1931.4	1923.7	1962.2	1790.8	1625.2	1555.9	1517.4	1509.7
30°	8563.0	6215.8	2224.0	1781.2	1794.6	1740.7	1544.3	1490.4	1475.0	1453.8	1444.2
32.5°	8607.3	5794.1	1952.5	1657.9	1671.4	1494.2	1419.2	1426.9	1424.9	1398.0	1388.3
35°	8728.6	5383.9	1779.2	1546.2	1507.7	1338.3	1347.9	1371.0	1371.0	1338.3	1326.7
37.5°	8940.5	5002.7	1669.5	1451.9	1319.0	1257.4	1282.4	1313.2	1313.2	1290.1	1280.5
40°	9165.7	4631.0	1586.7	1376.8	1199.6	1201.6	1226.6	1249.7	1259.3	1263.2	1255.5
42.5°	9369.9	4245.9	1498.1	1295.9	1145.7	1159.2	1170.8	1188.1	1228.5	1255.5	1251.6
45°	9489.2	3858.9	1401.8	1195.8	1109.1	1114.9	1111.1	1141.9	1190.0	1230.4	1230.4
47.5°	9599.0	3541.1	1322.9	1095.7	1072.5	1072.5	1061.0	1091.8	1136.1	1184.2	1188.1
50°	9703.0	3335.1	1267.0	1018.6	1026.3	1020.6	1016.7	1045.6	1105.3	1163.0	1172.7
52.5°	9808.9	3265.8	1217.0	962.8	978.2	970.5	974.3	1014.8	1082.2	1141.9	1151.5
55°	9957.2	3310.1	1165.0	924.3	932.0	930.1	945.5	991.7	1051.4	1111.1	1114.9
57.5°	10140.1	3471.8	1120.7	895.4	887.7	899.2	924.3	968.6	1026.3	1097.6	1103.4
58°	10176.7	3510.3	1113.0	887.7	878.1	895.4	920.4	962.8	1022.5	1097.6	1103.4
60°	10232.5	3647.0	1093.7	872.3	845.3	876.1	906.9	949.3	1014.8	1107.2	1118.8
62.5°	9962.9	3674.0	1088.0	855.0	810.7	849.2	885.8	933.9	1007.1	1139.9	1165.0
65°	9029.0	3396.7	1047.5	826.1	781.8	828.0	866.5	922.4	1030.2	1238.1	1249.7
67.5°	7247.9	2821.0	949.3	781.8	749.0	803.0	851.1	922.4	1039.8	1253.6	1261.3
70°	4983.4	2120.1	826.1	733.6	710.5	772.2	845.3	943.5	1007.1	1186.2	1163.0
72.5°	2603.4	1475.0	724.0	677.8	664.3	745.2	901.2	922.4	968.6	1107.2	1084.1
75°	1311.3	1003.2	637.4	614.3	612.3	735.6	1009.0	887.7	928.1	1041.7	1091.8
77.5°	774.1	785.6	568.0	554.6	564.2	718.2	1010.9	853.0	881.9	958.9	1012.9
80°	529.5	648.9	514.1	510.3	518.0	660.5	932.0	810.7	828.0	906.9	964.7
82.5°	298.5	358.2	450.6	475.6	471.8	541.1	804.9	737.5	758.7	1072.5	1134.2
85°	144.4	215.7	377.4	444.8	402.4	360.1	654.7	654.7	660.5	768.3	777.9
87.5°	53.9	96.3	254.2	352.4	281.1	215.7	444.8	464.1	516.1	531.5	543.0
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)