

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: P196511

Luminaire Tested: **NAV-AF-05-D-UNV-AFL-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196511
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-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 32688.2 lumens
Efficiency: N/A
Efficacy: 102.2 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

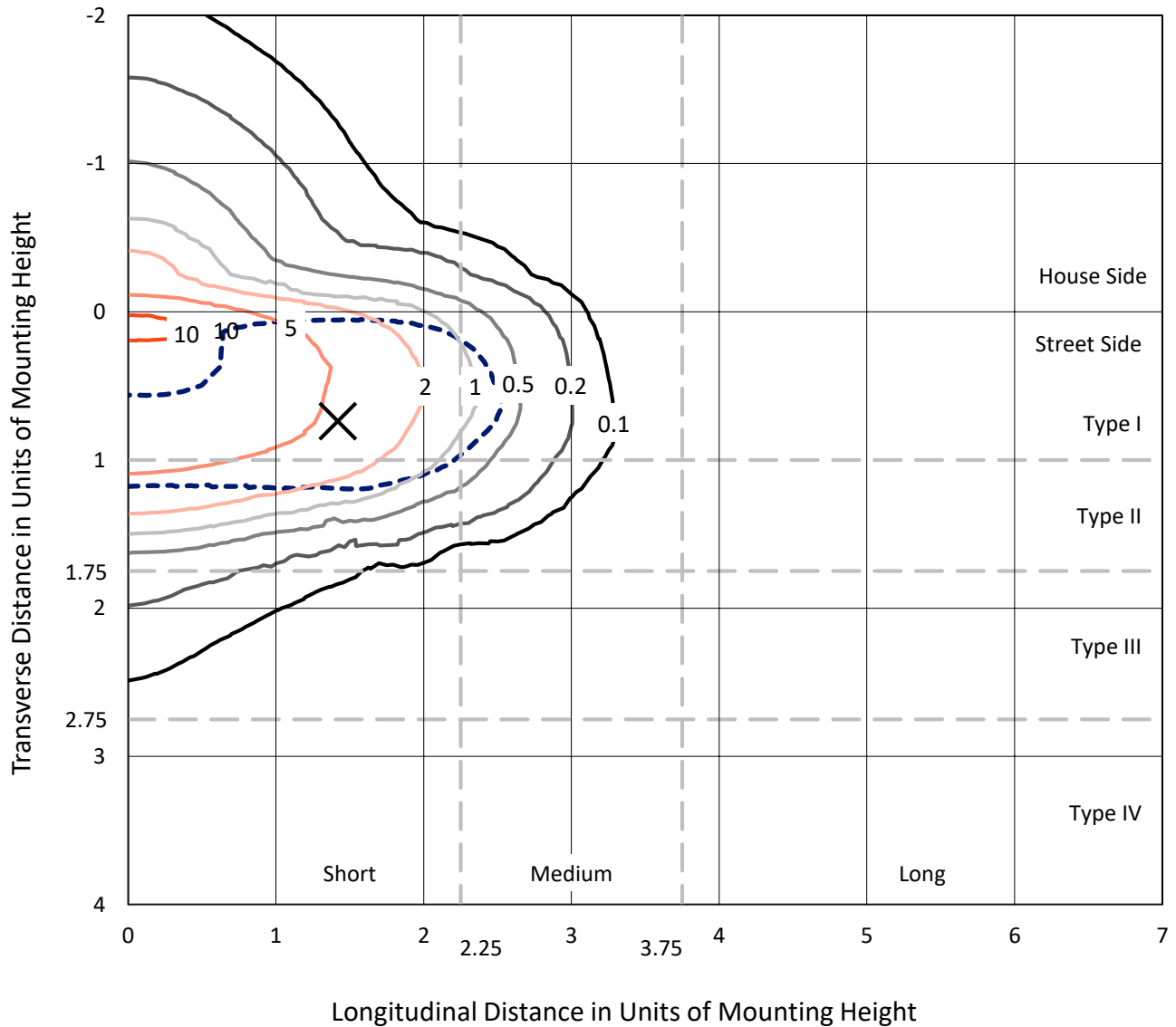
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196511
 CATALOG NUMBER: NAV-AF-05-D-UNV-AFL-7030-1200

Iso-Footcandle Lines of Horizontal Illumination

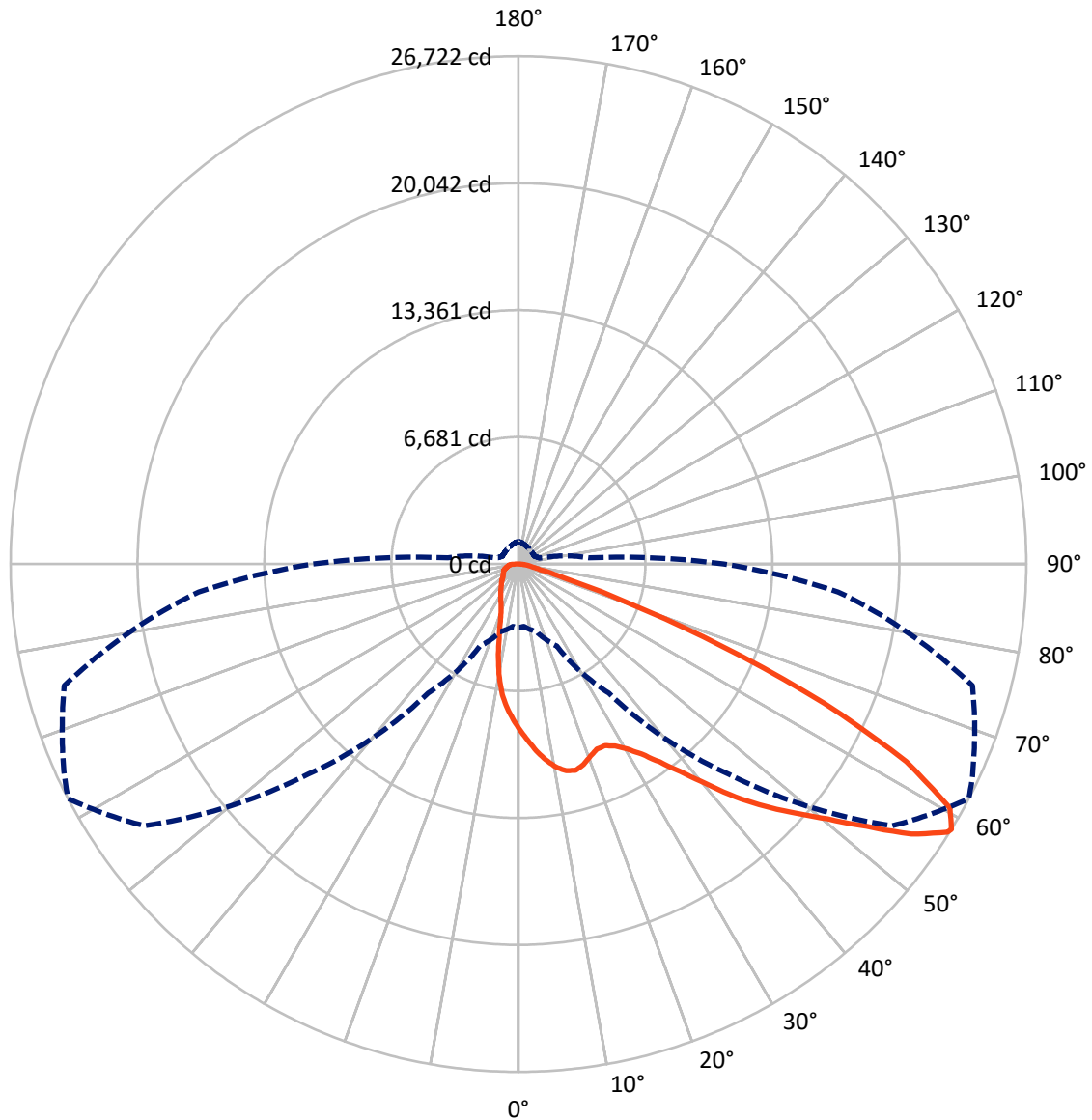
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 11.3 fc
 Type II - Short - Full Cutoff

REPORT NUMBER: P196511
CATALOG NUMBER: NAV-AF-05-D-UNV-AFL-7030-1200

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196511

CATALOG NUMBER: NAV-AF-05-D-UNV-AFL-7030-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5018.9	0.0	5018.9
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	27669.3	0.0	27669.3
	% Fixture	84.6	0.0	84.6
Total	Lumens	32688.2	0.0	32688.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	780.1	2.4
10°-20°	1968.8	6.0
20°-30°	3190.6	9.8
30°-40°	5094.1	15.6
40°-50°	7409.5	22.7
50°-60°	7753.4	23.7
60°-70°	4726.8	14.5
70°-80°	1321.9	4.0
80°-90°	443.1	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°	32688.2	100.0
0°-180°	32688.2	100.0



REPORT NUMBER: P196511

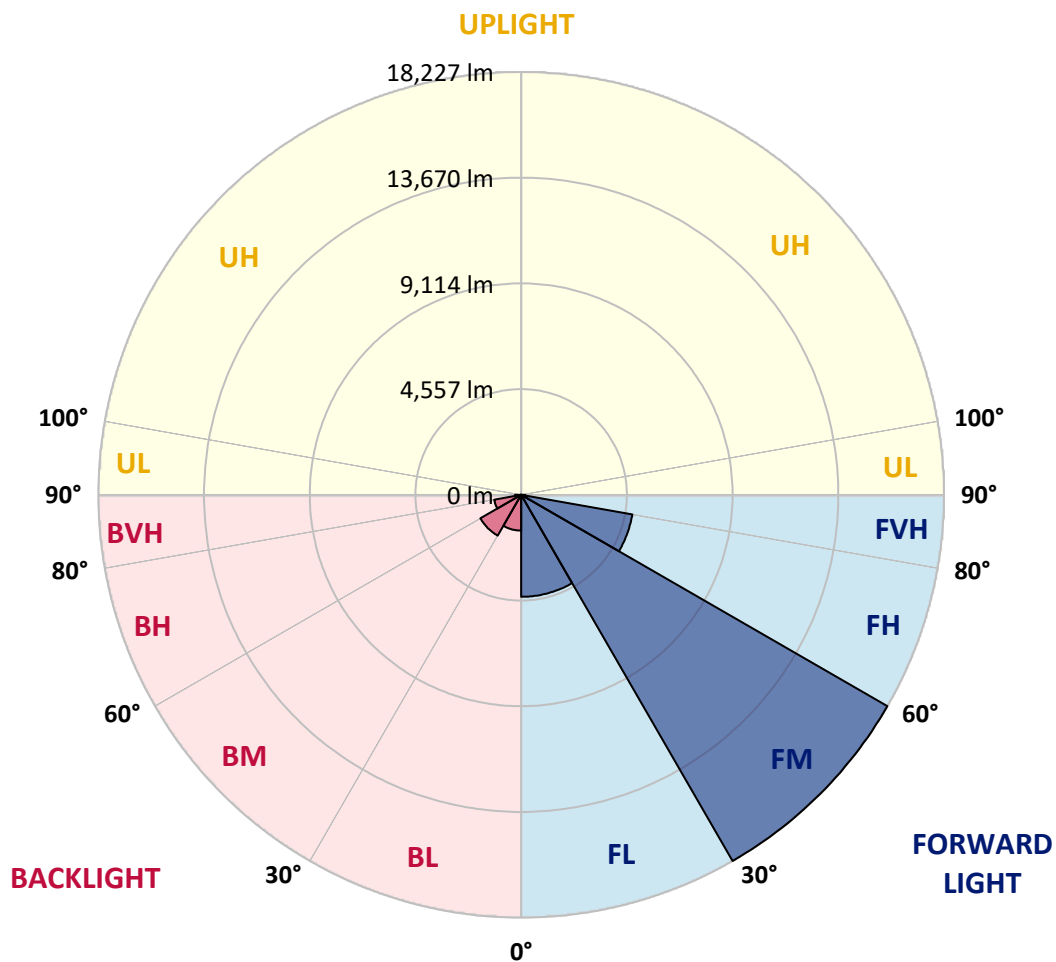
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	4396.7	13.5			
FM	(30°-60°)	18227.3	55.8			
FH	(60°-80°)	4867.1	14.9			G2/5000
FVH	(80°-90°)	178.2	0.5			G2/225
BL	(0°-30°)	1542.8	4.7	B3/2500		
BM	(30°-60°)	2029.7	6.2	B2/2500		
BH	(60°-80°)	1181.5	3.6	B3/2500		G3/2500
BVH	(80°-90°)	264.8	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





REPORT NUMBER: P196511

CATALOG NUMBER: NAV-AF-05-D-UNV-AFL-7030-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	8727.5	8727.5	8727.5	8727.5	8727.5	8727.5	8727.5	8727.5	8727.5	8727.5	8727.5
2.5°	9906.3	9900.2	9816.4	9761.2	9695.8	9544.7	9393.6	9281.1	9224.0	9005.3	8792.8
5°	10725.6	10701.1	10654.1	10594.8	10509.0	10319.0	10079.9	9873.6	9792.0	9403.7	9013.6
7.5°	10292.4	10331.2	10476.4	10639.7	10811.3	10823.7	10654.1	10408.9	10319.0	9800.1	9228.0
10°	9093.2	9076.9	9258.7	9577.4	10143.3	10703.0	10983.0	10862.4	10768.5	10176.0	9442.5
12.5°	8729.6	8725.5	8756.1	8837.9	9193.3	9961.5	10899.1	11160.8	11128.0	10574.3	9671.4
15°	8839.9	8844.0	8842.0	8852.1	8950.2	9315.9	10431.3	11260.8	11363.0	10968.6	9904.3
17.5°	9193.3	9179.0	9134.1	9085.0	9099.3	9230.1	9926.8	11089.2	11395.6	11320.1	10100.4
20°	9738.9	9738.9	9618.3	9481.4	9391.5	9420.2	9716.3	10795.1	11244.4	11618.3	10247.5
22.5°	10423.3	10433.3	10255.6	10006.4	9802.0	9724.5	9836.8	10576.4	11060.7	11894.1	10378.2
25°	11273.1	11270.9	11011.5	10654.1	10331.2	10145.4	10143.3	10586.6	11003.4	12217.0	10515.1
27.5°	12325.2	12229.2	11926.8	11418.1	10962.5	10678.6	10549.8	10844.1	11123.9	12613.2	10699.0
30°	13512.1	13414.1	13017.8	12364.0	11747.0	11332.3	11119.9	11289.4	11491.7	13117.8	10976.8
32.5°	14686.8	14709.3	14243.5	13506.0	12713.3	12129.1	11814.4	11918.6	12059.6	13734.9	11352.7
35°	16407.0	16404.9	15796.1	14874.8	13933.0	13124.0	12725.7	12780.8	12909.4	14605.1	11879.9
37.5°	17689.9	17669.6	17277.2	16462.2	15401.8	14431.5	13855.3	13863.6	13973.8	15698.2	12574.4
40°	17820.7	17816.7	17814.6	17698.2	16972.9	16057.8	15336.5	15187.4	15232.3	16858.4	13311.9
42.5°	16821.8	16970.9	17399.9	18057.8	18260.0	17779.9	17097.6	16764.5	16666.5	18190.6	14092.4
45°	15397.8	15473.4	16225.2	17704.3	18907.7	19397.9	18885.1	18182.4	18014.8	19485.8	14727.7
47.5°	14735.9	14703.2	15138.3	16750.2	18844.3	20685.0	20721.8	19569.5	19285.6	20603.2	15269.1
50°	13316.0	13273.2	13822.7	15346.8	18153.8	21324.4	22607.4	21081.3	20556.2	21665.6	15759.4
52.5°	10486.4	10445.6	11183.1	13146.4	16609.3	21085.4	24196.9	22936.4	22041.5	22689.1	16217.1
55°	6823.5	6827.6	7530.3	9554.9	13440.6	19692.2	24942.5	25079.4	24076.3	23712.6	16586.7
57.5°	3757.0	3722.3	4222.8	5467.0	9246.4	16527.5	24321.4	26623.9	26100.8	24591.1	16854.5
58°	3340.3	3299.4	3685.6	4758.0	8290.4	15634.8	24008.8	26722.0	26360.3	24736.2	16893.2
60°	2380.1	2310.7	2251.4	2682.5	4776.5	11273.1	21925.0	26086.5	26436.0	25026.3	16856.5
62.5°	2006.2	1926.5	1714.1	1697.7	2249.3	5514.0	17338.6	22909.8	23888.3	24358.3	16264.0
65°	1863.2	1783.5	1503.6	1403.6	1526.2	2380.1	10721.5	17689.9	18997.5	22035.4	14772.6
67.5°	1761.0	1667.1	1366.8	1235.9	1260.6	1423.9	4549.7	11569.3	13085.2	17183.3	11851.3
70°	1669.2	1564.9	1258.4	1107.3	1086.8	1082.8	1777.4	6041.1	7501.7	11244.4	7939.0
72.5°	1564.9	1462.8	1162.4	1001.1	956.1	878.5	1068.4	2496.5	3422.0	5511.9	3638.6
75°	1413.7	1330.0	1056.2	913.2	835.7	713.0	788.7	1197.2	1475.0	2110.4	1689.4
77.5°	1244.1	1176.7	948.0	839.6	735.5	582.3	602.7	811.0	911.1	1189.0	978.5
80°	880.5	905.0	827.4	739.5	647.6	470.0	463.8	594.5	653.7	798.8	657.8
82.5°	606.7	625.2	674.1	584.3	523.1	365.7	341.2	412.7	443.4	482.2	318.7
85°	433.1	420.8	467.8	418.8	384.0	232.9	218.6	261.4	279.9	294.2	153.2
87.5°	263.6	261.4	269.7	216.6	200.2	118.5	108.2	124.7	132.8	128.7	73.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196511

CATALOG NUMBER: NAV-AF-05-D-UNV-AFL-7030-1200

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	8727.5	8727.5	8727.5	8727.5	8727.5	8727.5	8727.5	8727.5	8727.5	8727.5	8727.5
2.5°	8713.2	8613.1	8394.5	8218.8	8028.8	7883.8	7738.8	7657.0	7567.1	7516.1	7509.9
5°	8809.2	8604.9	8139.2	7706.0	7260.8	6860.3	6468.0	6177.9	5941.0	5806.1	5798.0
7.5°	8915.4	8594.8	7875.6	7125.9	6333.2	5544.6	4848.0	4355.6	4039.0	3891.9	3881.7
10°	8997.2	8551.8	7554.8	6388.4	5131.9	4090.0	3456.8	3166.6	3070.6	3046.0	3042.0
12.5°	9095.3	8521.2	7150.4	5442.4	3922.5	3113.5	2921.5	2903.0	2923.4	2935.7	2937.8
15°	9187.2	8461.9	6604.9	4394.4	3070.6	2782.5	2786.5	2825.5	2866.3	2884.7	2886.7
17.5°	9230.1	8317.0	5887.8	3462.9	2686.4	2633.3	2680.3	2731.5	2768.2	2782.5	2782.5
20°	9230.1	8084.0	5056.3	2805.0	2486.3	2496.5	2553.7	2592.5	2600.7	2588.5	2582.4
22.5°	9191.3	7795.9	4247.4	2447.5	2322.9	2361.6	2406.7	2380.1	2284.1	2210.6	2196.2
25°	9156.6	7454.8	3469.0	2228.9	2179.8	2231.0	2212.5	2030.7	1883.6	1808.0	1795.7
27.5°	9099.3	7042.1	2819.3	2049.0	2041.0	2081.8	1899.9	1724.2	1650.7	1609.8	1601.6
30°	9085.0	6594.7	2359.7	1889.7	1904.1	1846.8	1638.5	1581.2	1564.9	1542.4	1532.3
32.5°	9132.0	6147.3	2071.5	1759.0	1773.3	1585.4	1505.7	1513.8	1511.8	1483.2	1473.0
35°	9260.7	5712.1	1887.7	1640.5	1599.7	1419.9	1430.1	1454.6	1454.6	1419.9	1407.6
37.5°	9485.5	5307.6	1771.2	1540.4	1399.4	1334.0	1360.6	1393.3	1393.3	1368.8	1358.5
40°	9724.5	4913.3	1683.3	1460.7	1272.8	1274.8	1301.4	1325.9	1336.1	1340.2	1332.0
42.5°	9941.1	4504.8	1589.4	1374.9	1215.5	1229.8	1242.2	1260.6	1303.5	1332.0	1327.9
45°	10067.7	4094.1	1487.2	1268.7	1176.7	1182.8	1178.8	1211.4	1262.6	1305.4	1305.4
47.5°	10184.2	3757.0	1403.6	1162.4	1137.9	1137.9	1125.7	1158.3	1205.3	1256.4	1260.6
50°	10294.5	3538.4	1344.2	1080.7	1088.9	1082.8	1078.7	1109.3	1172.7	1234.0	1244.1
52.5°	10406.8	3464.8	1291.1	1021.5	1037.9	1029.7	1033.7	1076.6	1148.1	1211.4	1221.7
55°	10564.2	3511.8	1235.9	980.6	988.8	986.7	1003.1	1052.1	1115.4	1178.8	1182.8
57.5°	10758.2	3683.4	1189.0	950.0	941.9	954.1	980.6	1027.6	1088.9	1164.4	1170.6
58°	10797.0	3724.3	1180.9	941.9	931.6	950.0	976.6	1021.5	1084.8	1164.4	1170.6
60°	10856.3	3869.4	1160.5	925.4	896.9	929.6	962.2	1007.2	1076.6	1174.7	1187.0
62.5°	10570.3	3898.0	1154.4	907.1	860.1	901.0	939.7	990.9	1068.4	1209.4	1235.9
65°	9579.5	3603.8	1111.3	876.5	829.5	878.5	919.3	978.5	1093.0	1313.7	1325.9
67.5°	7689.6	2992.9	1007.2	829.5	794.8	851.9	903.0	978.5	1103.2	1330.0	1338.1
70°	5287.2	2249.3	876.5	778.4	753.9	819.2	896.9	1001.1	1068.4	1258.4	1234.0
72.5°	2762.1	1564.9	768.2	719.2	704.8	790.6	956.1	978.5	1027.6	1174.7	1150.2
75°	1391.3	1064.4	676.2	651.7	649.6	780.4	1070.5	941.9	984.8	1105.2	1158.3
77.5°	821.3	833.5	602.7	588.4	598.6	762.0	1072.6	905.0	935.7	1017.4	1074.6
80°	561.8	688.5	545.4	541.4	549.6	700.8	988.8	860.1	878.5	962.2	1023.5
82.5°	316.7	380.0	478.0	504.6	500.5	574.0	854.0	782.4	804.9	1137.9	1203.3
85°	153.2	228.8	400.4	471.9	426.9	382.1	694.6	694.6	700.8	815.2	825.4
87.5°	57.3	102.1	269.7	373.8	298.3	228.8	471.9	492.3	547.5	563.9	576.2
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)