

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: P195887

Luminaire Tested: **NAV-AF-05-D-UNV-T4FT-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195887
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
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-T4FT-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 33247 lumens
Efficiency: N/A
Efficacy: 103.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G5

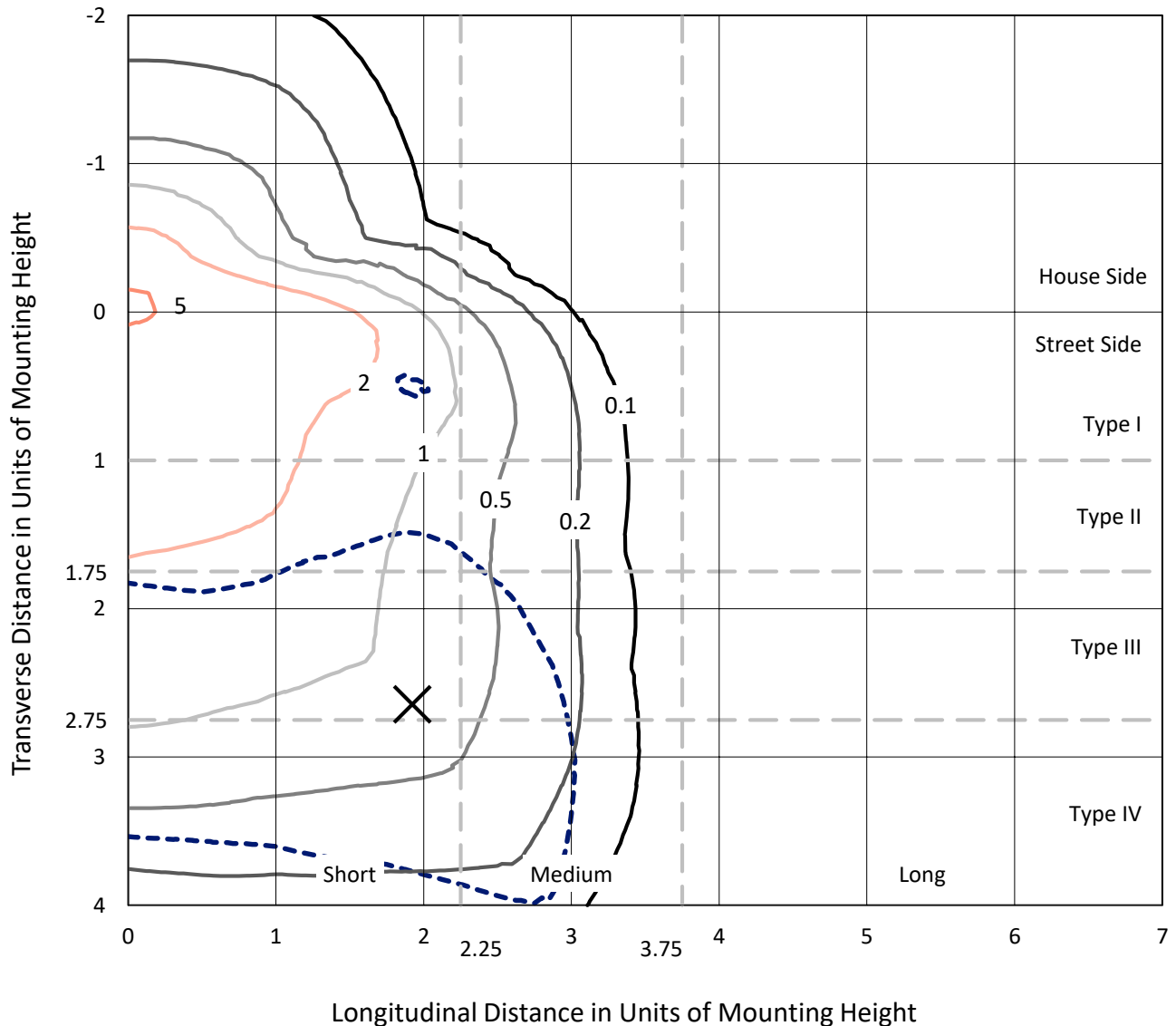
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

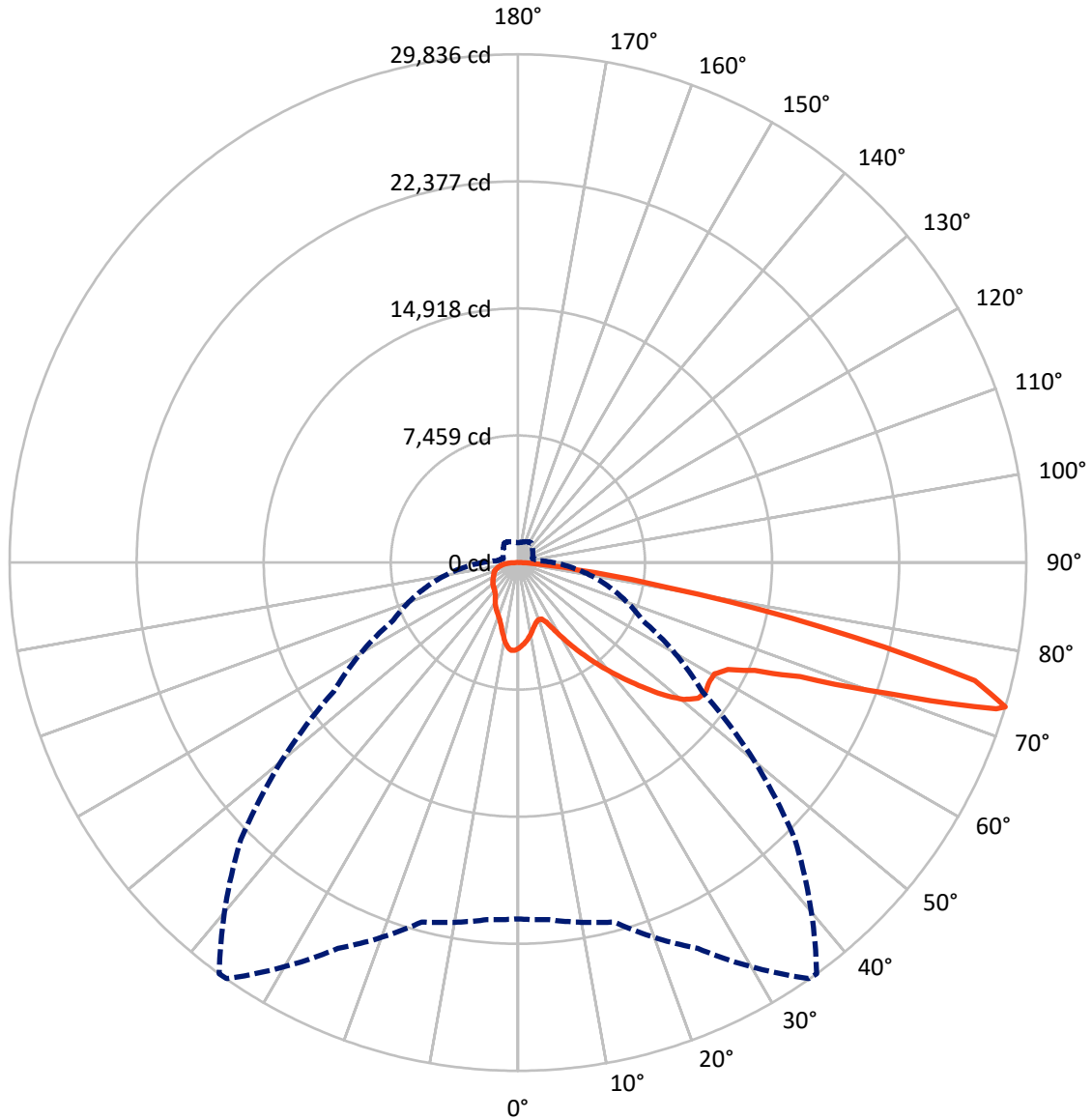
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 5.6 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6411.0	0.0	6411.0
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	26836.0	0.0	26836.0
	% Fixture	80.7	0.0	80.7
Total	Lumens	33247.0	0.0	33247.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	457.4	1.4
10°-20°	1148.8	3.5
20°-30°	1841.8	5.5
30°-40°	3046.5	9.2
40°-50°	4714.2	14.2
50°-60°	6310.9	19.0
60°-70°	8244.0	24.8
70°-80°	6733.9	20.3
80°-90°	749.5	2.3
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°	33247.0	100.0
0°-180°	33247.0	100.0



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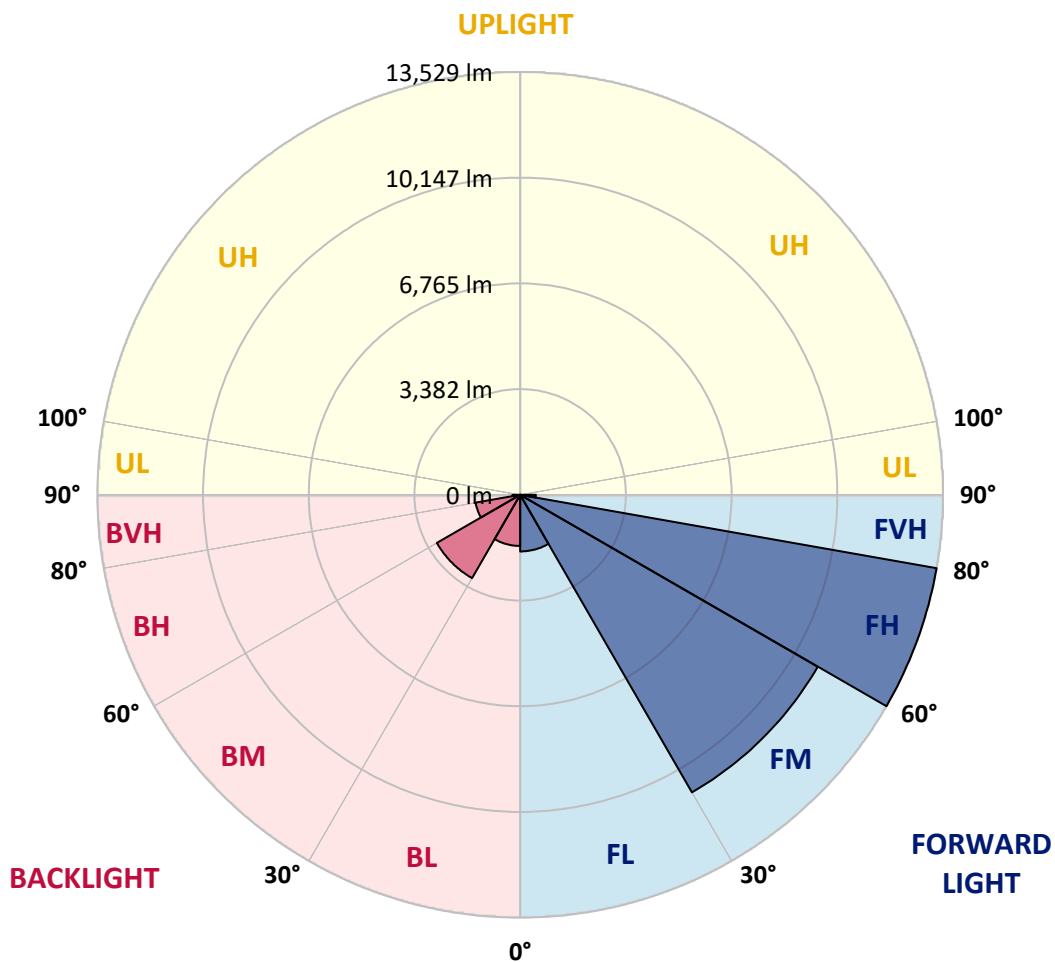
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1811.6	5.4			
FM	(30°-60°)	10992.6	33.1			
FH	(60°-80°)	13529.1	40.7			G5
FVH	(80°-90°)	502.7	1.5			G4/750
BL	(0°-30°)	1636.5	4.9	B3/2500		
BM	(30°-60°)	3078.9	9.3	B3/5000		
BH	(60°-80°)	1448.8	4.4	B3/2500		G3/2500
BVH	(80°-90°)	246.8	0.7			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	5036.0	5036.0	5036.0	5036.0	5036.0	5036.0	5036.0	5036.0	5036.0	5036.0	5036.0
2.5°	4843.7	4856.4	4858.5	4873.3	4873.3	4871.2	4877.5	4902.9	4915.5	4945.1	4970.5
5°	4605.0	4619.8	4626.1	4651.5	4683.2	4685.3	4708.5	4757.1	4803.6	4869.1	4924.0
7.5°	4336.8	4353.6	4370.5	4423.4	4469.8	4474.1	4518.4	4596.6	4657.8	4738.1	4837.4
10°	4076.9	4081.2	4098.0	4165.6	4226.9	4233.2	4296.6	4385.3	4467.7	4579.7	4691.6
12.5°	3863.6	3876.2	3872.0	3922.7	3975.5	3979.8	4064.3	4176.2	4296.6	4423.4	4556.4
15°	3789.6	3787.5	3743.2	3741.1	3764.3	3768.5	3850.9	3981.9	4117.1	4273.4	4444.5
17.5°	3840.3	3823.4	3707.3	3635.4	3620.6	3624.9	3686.1	3829.8	3973.4	4153.0	4357.9
20°	4119.2	4053.7	3781.2	3608.0	3559.4	3559.4	3595.3	3711.5	3869.9	4079.0	4336.8
22.5°	4780.4	4679.0	4098.0	3789.6	3618.5	3601.6	3574.2	3662.9	3838.2	4089.6	4423.4
25°	5612.6	5564.1	4679.0	4273.4	3920.6	3865.7	3684.0	3715.7	3903.7	4203.7	4659.9
27.5°	6383.7	6299.2	5441.5	4976.8	4478.3	4393.8	4009.3	3880.5	4060.0	4414.9	5002.2
30°	6833.6	6776.6	6225.2	5781.6	5188.0	5080.3	4529.0	4205.8	4338.9	4763.5	5488.0
32.5°	7323.7	7289.9	7011.0	6607.6	5957.0	5832.3	5200.7	4736.0	4765.6	5226.1	6073.1
35°	7799.0	7843.3	7684.9	7389.2	6785.0	6668.8	6102.7	5428.9	5291.6	5745.7	6698.4
37.5°	8369.3	8379.9	8280.6	8088.4	7655.3	7560.3	7093.4	6168.2	5864.0	6299.2	7302.6
40°	9507.9	9341.0	8952.3	8800.2	8542.5	8483.4	7951.1	6846.3	6396.3	6867.4	7872.9
42.5°	10739.4	10479.6	9871.2	9622.0	9518.5	9463.5	8665.1	7298.3	6894.9	7435.6	8432.7
45°	11732.3	11521.0	10925.3	10616.9	10629.6	10540.9	9288.2	7701.8	7435.6	8006.0	9058.0
47.5°	12710.3	12357.5	11690.0	11645.6	11793.5	11662.5	9883.9	8105.3	7999.6	8627.0	9683.2
50°	12773.7	12452.6	12182.2	12537.1	12790.6	12627.9	10424.7	8633.4	8584.8	9379.0	10490.2
52.5°	12002.6	11956.2	12368.1	12965.9	13386.3	13240.5	10866.2	9176.3	9182.6	10319.1	11472.4
55°	11721.7	11662.5	12156.8	12892.0	13460.2	13373.6	11195.7	9788.8	9845.9	11459.8	12526.5
57.5°	12194.9	12047.0	12144.2	12752.5	13287.0	13236.3	11537.9	10469.0	10572.5	12773.7	13500.3
60°	13663.0	13360.9	12845.5	12959.6	13293.3	13263.7	12028.0	11227.4	11400.6	14142.5	14117.1
62.5°	15862.0	15519.8	14469.9	13962.9	13889.0	13832.0	12837.0	12159.0	12245.6	15131.1	13758.0
65°	18274.3	17906.8	16658.4	15828.2	15393.0	15270.5	14142.5	13282.8	12739.9	15129.0	12359.6
67.5°	20982.4	20593.8	19349.6	18557.4	18086.3	17877.2	16261.2	14191.1	12579.3	13848.9	9890.2
70°	23756.0	23386.3	22816.0	23092.7	23299.7	22980.8	19598.8	14493.2	11426.0	10857.7	6641.4
72.5°	22283.7	22254.1	22687.1	25310.7	29301.1	29364.4	22932.2	13639.7	8827.7	6453.4	3540.4
73°	20917.0	21041.6	21844.3	24983.3	29814.4	29835.5	22997.7	13198.3	8105.3	5559.8	3109.4
75°	10836.6	11681.6	14660.0	20257.9	27606.9	27706.2	20272.7	9991.6	4831.1	3088.3	2095.5
77.5°	2902.4	2864.4	4723.3	9869.1	18405.3	18274.3	12809.6	4837.4	2315.2	1937.1	1470.2
80°	994.9	1007.6	1607.5	3610.1	8591.1	8897.4	5559.8	2110.3	1523.0	1349.8	1041.4
82.5°	507.0	523.9	840.7	1535.7	3593.2	3517.1	1789.2	1242.1	1020.3	819.6	583.0
85°	270.4	278.8	462.6	796.4	1318.1	1332.9	629.5	663.3	648.5	464.7	287.3
87.5°	133.1	137.3	221.8	350.7	488.0	471.1	219.7	287.3	319.0	261.9	158.4
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°	5036.0	5036.0	5036.0	5036.0	5036.0	5036.0	5036.0	5036.0	5036.0	5036.0	5036.0
2.5°	5002.2	5002.2	5029.6	5076.1	5109.9	5141.6	5162.7	5196.5	5215.5	5213.4	5211.3
5°	4968.4	4989.5	5044.4	5101.4	5139.5	5164.8	5164.8	5179.6	5179.6	5173.3	5164.8
7.5°	4890.2	4926.1	5006.4	5057.1	5067.6	5040.2	4985.3	4943.0	4890.2	4862.7	4852.2
10°	4765.6	4812.0	4913.4	4936.7	4881.7	4784.6	4651.5	4537.4	4436.0	4389.6	4374.8
12.5°	4643.0	4704.3	4799.4	4763.5	4632.5	4442.4	4237.5	4081.2	3967.1	3922.7	3907.9
15°	4541.7	4615.6	4689.5	4577.6	4349.4	4085.4	3859.3	3713.6	3627.0	3593.2	3584.7
17.5°	4474.1	4560.7	4586.0	4376.9	4060.0	3764.3	3563.6	3468.6	3430.5	3415.7	3411.5
20°	4478.3	4575.5	4514.2	4182.5	3781.2	3483.3	3350.3	3322.8	3322.8	3322.8	3320.7
22.5°	4594.5	4679.0	4484.6	4000.9	3512.9	3246.8	3189.7	3213.0	3229.9	3229.9	3227.7
25°	4835.3	4881.7	4505.7	3825.6	3261.5	3041.9	3044.0	3088.3	3103.1	3103.1	3098.9
27.5°	5202.8	5164.8	4543.8	3631.2	3014.4	2856.0	2885.5	2925.7	2936.2	2929.9	2927.8
30°	5663.3	5511.2	4575.5	3403.1	2782.0	2682.7	2708.1	2731.3	2722.9	2708.1	2706.0
32.5°	6178.8	5864.0	4556.4	3147.5	2577.1	2503.2	2518.0	2530.7	2518.0	2482.1	2482.1
35°	6690.0	6183.0	4452.9	2868.6	2414.5	2330.0	2327.9	2368.0	2365.9	2323.6	2325.7
37.5°	7137.8	6434.4	4252.3	2613.0	2275.1	2203.2	2211.7	2237.0	2249.7	2192.7	2186.3
40°	7528.6	6607.6	3969.2	2395.5	2163.1	2167.3	2144.1	2103.9	2089.2	2063.8	2059.6
42.5°	7896.1	6728.0	3669.2	2213.8	2106.1	2154.6	2076.5	1981.4	1941.3	1964.5	1979.3
45°	8257.4	6863.2	3379.8	2063.8	2034.2	2116.6	2008.9	1903.3	1856.8	1867.4	1882.1
47.5°	8698.8	7051.2	3031.3	1903.3	1924.4	2046.9	1966.6	1852.6	1782.9	1740.6	1727.9
50°	9279.8	7323.7	2579.2	1730.1	1808.2	1970.9	1930.7	1778.6	1702.6	1618.1	1597.0
52.5°	10006.4	7581.4	2123.0	1590.6	1713.2	1905.4	1871.6	1715.3	1622.3	1520.9	1504.0
55°	10731.0	7617.3	1730.1	1470.2	1605.4	1816.7	1799.8	1664.6	1533.6	1451.2	1434.3
57.5°	11238.0	7277.2	1466.0	1368.8	1501.9	1706.8	1734.3	1603.3	1459.7	1396.3	1385.7
60°	11246.4	6463.9	1305.5	1301.2	1423.8	1611.8	1666.7	1531.5	1413.2	1370.9	1362.5
62.5°	10352.9	5209.2	1202.0	1250.5	1366.7	1533.6	1616.0	1491.4	1402.6	1385.7	1377.3
65°	8677.7	3848.8	1119.6	1204.1	1313.9	1468.1	1573.7	1478.7	1398.4	1392.1	1385.7
67.5°	6406.9	2638.4	1049.9	1144.9	1254.8	1400.5	1533.6	1459.7	1373.1	1398.4	1390.0
70°	4030.5	1761.7	984.4	1077.3	1176.6	1322.4	1480.8	1425.9	1341.4	1326.6	1299.1
72.5°	2275.1	1273.8	906.2	990.7	1075.2	1218.9	1409.0	1368.8	1269.6	1210.4	1182.9
73°	2055.4	1206.2	887.2	969.6	1052.0	1197.7	1392.1	1351.9	1248.4	1182.9	1157.6
75°	1504.0	986.5	800.6	883.0	954.8	1100.6	1311.8	1267.4	1155.5	1077.3	1060.4
77.5°	1090.0	760.5	688.6	762.6	825.9	965.4	1191.4	1140.7	1030.8	988.6	971.7
80°	785.8	576.7	570.3	642.2	697.1	838.6	1062.5	1009.7	904.1	1028.7	1001.3
82.5°	469.0	369.7	418.3	498.5	555.6	703.4	923.1	861.9	760.5	768.9	654.8
85°	223.9	209.1	259.8	327.4	367.6	481.6	768.9	720.3	608.4	498.5	488.0
87.5°	99.3	95.1	124.6	145.8	196.5	289.4	526.0	466.8	441.5	264.0	207.0
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)