

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: P194972

Luminaire Tested: **NAV-AF-02-D-UNV-5MQ-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P194972
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24129)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-5MQ-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14230 lumens
Efficiency: N/A
Efficacy: 110.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

Input Watts (W): 129
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

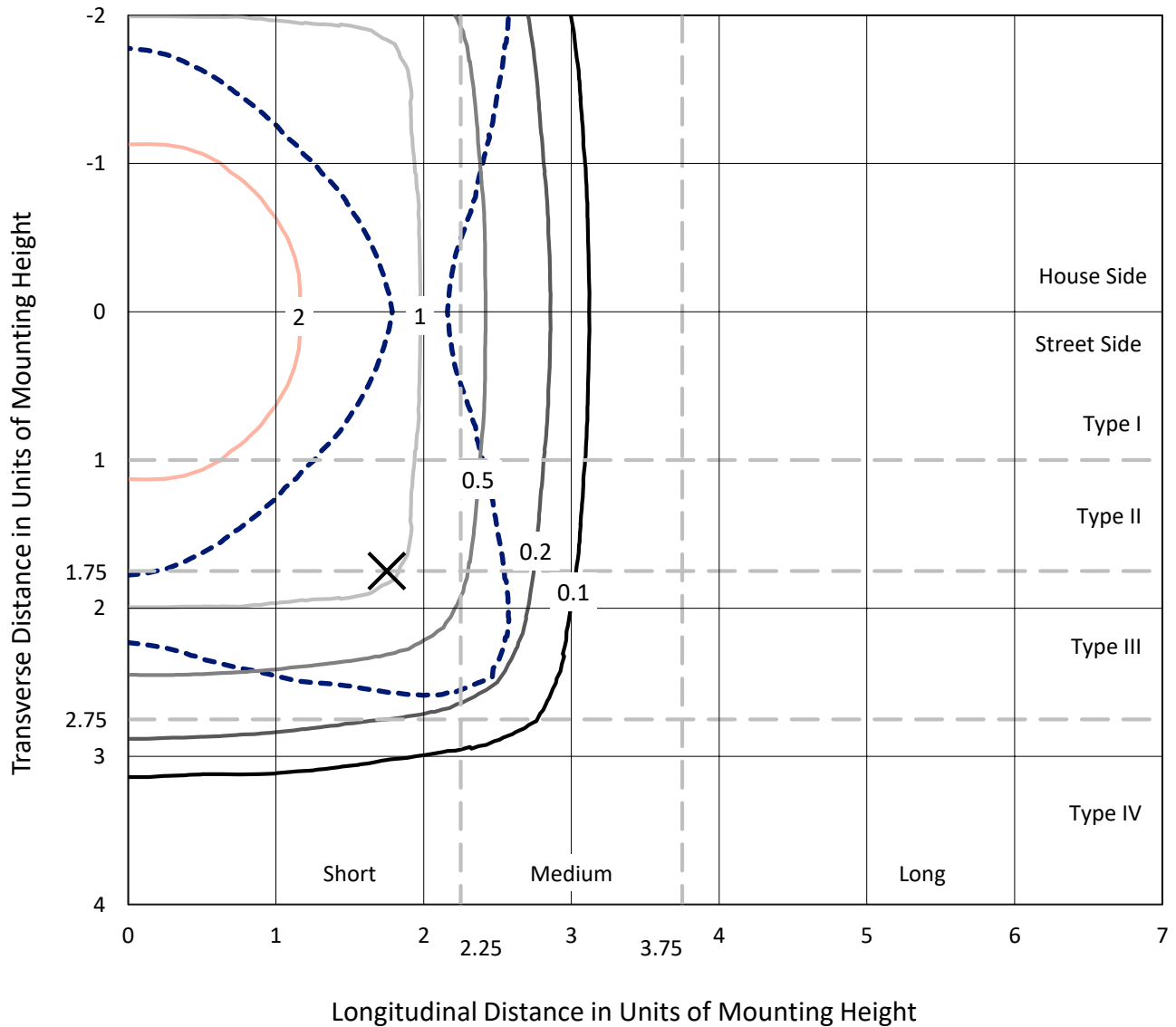


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Iso-Footcandle Lines of Horizontal Illumination

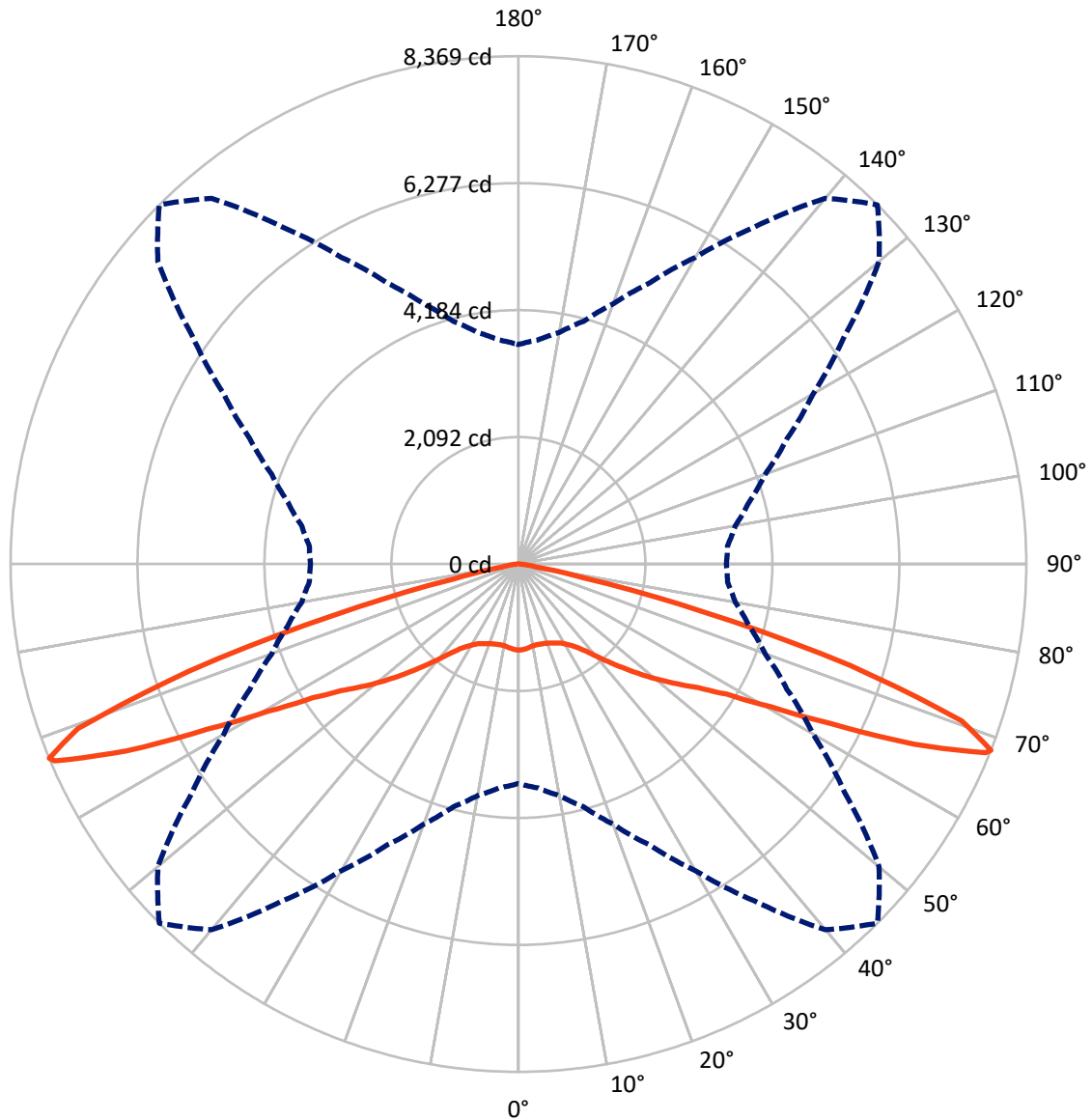
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.5 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	7115.0	0.0	7115.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	7115.0	0.0	7115.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	14230.0	0.0	14230.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.8	0.9
10°-20°	385.2	2.7
20°-30°	654.9	4.6
30°-40°	1071.7	7.5
40°-50°	1915.3	13.5
50°-60°	3234.7	22.7
60°-70°	5015.9	35.2
70°-80°	1724.6	12.1
80°-90°	94.8	0.7
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°	14230.0	100.0
0°-180°	14230.0	100.0

Coefficient of Utilization



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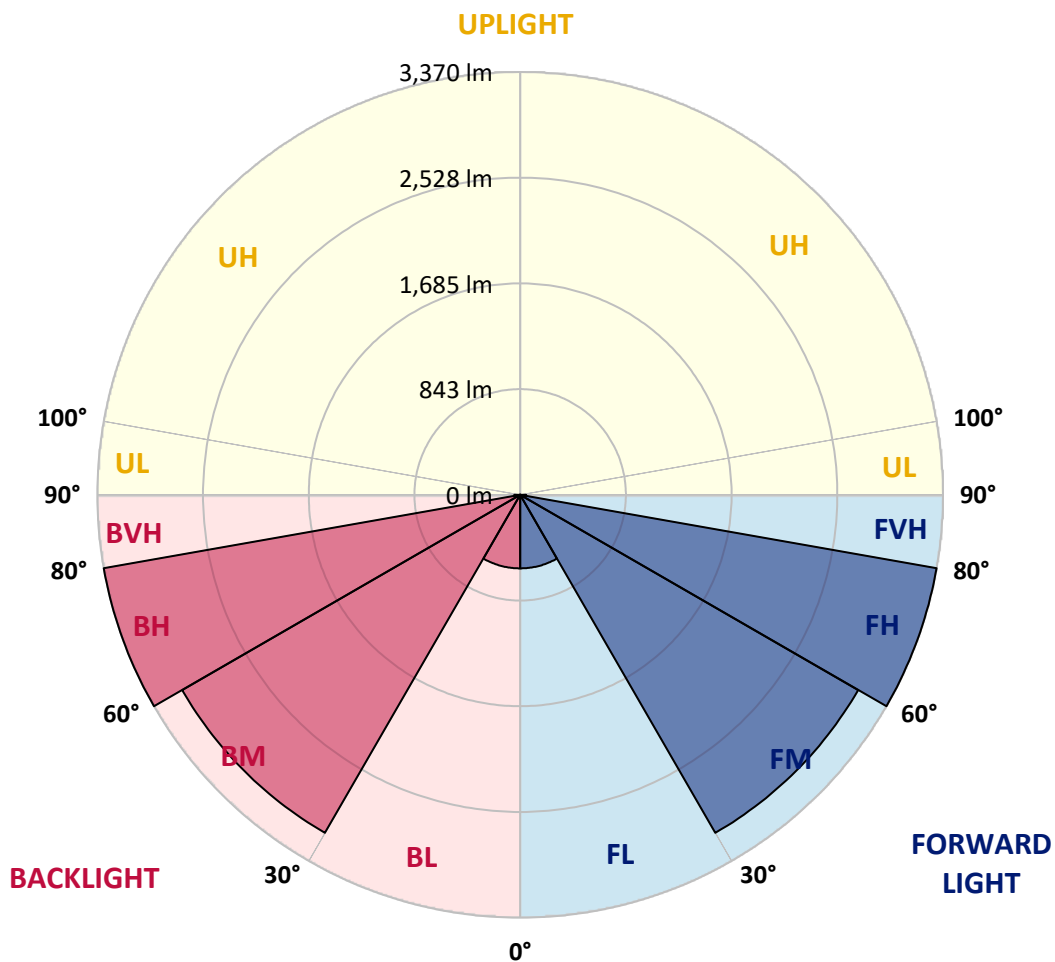
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	586.5	4.1			
FM	(30°-60°)	3110.9	21.9			
FH	(60°-80°)	3370.2	23.7			G2/5000
FVH	(80°-90°)	47.4	0.3			G1/100
BL	(0°-30°)	586.5	4.1	B2/1000		
BM	(30°-60°)	3110.9	21.9	B3/5000		
BH	(60°-80°)	3370.2	23.7	B4/5000		G2/5000
BVH	(80°-90°)	47.4	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1419.5	1419.5	1419.5	1419.5	1419.5	1419.5	1419.5	1419.5	1419.5	1419.5	1419.5
2.5°	1425.6	1425.6	1427.3	1426.5	1423.8	1421.2	1418.6	1416.0	1414.3	1412.5	1410.8
5°	1410.8	1410.8	1413.4	1411.6	1409.9	1407.3	1405.5	1402.9	1401.2	1399.4	1400.3
7.5°	1391.6	1393.3	1395.1	1394.2	1390.7	1389.9	1387.2	1386.4	1384.6	1382.0	1382.9
10°	1375.0	1375.9	1377.7	1376.8	1375.9	1373.3	1372.4	1371.6	1370.7	1367.2	1366.3
12.5°	1358.5	1360.2	1362.0	1362.8	1362.0	1362.8	1363.7	1364.6	1363.7	1362.0	1362.0
15°	1345.4	1347.2	1349.8	1352.4	1353.3	1358.5	1362.0	1365.5	1368.1	1368.9	1366.3
17.5°	1338.4	1341.1	1344.5	1349.8	1354.1	1360.2	1366.3	1371.6	1375.9	1376.8	1374.2
20°	1337.6	1340.2	1345.4	1351.5	1359.4	1367.2	1376.8	1384.6	1389.0	1391.6	1389.0
22.5°	1343.7	1347.2	1354.1	1362.0	1371.6	1382.0	1394.2	1402.9	1411.6	1415.1	1412.5
25°	1361.1	1364.6	1372.4	1382.0	1392.5	1405.5	1417.7	1429.1	1437.8	1442.1	1438.7
27.5°	1397.7	1398.6	1407.3	1417.7	1429.9	1441.3	1457.0	1462.2	1469.2	1473.5	1469.2
30°	1449.1	1450.9	1458.7	1475.3	1486.6	1501.4	1510.1	1515.3	1523.2	1527.5	1522.3
32.5°	1527.5	1529.3	1536.3	1551.9	1562.4	1573.7	1584.2	1587.7	1595.5	1600.7	1594.6
35°	1638.2	1641.7	1647.8	1658.2	1667.0	1675.7	1683.5	1680.9	1686.1	1693.1	1687.0
37.5°	1789.8	1789.0	1790.7	1798.5	1807.3	1812.5	1824.7	1818.6	1823.8	1829.9	1826.4
40°	1966.7	1966.7	1965.8	1979.8	1983.3	1988.5	2001.6	1993.7	2000.7	2007.7	2001.6
42.5°	2168.0	2171.5	2175.8	2187.2	2196.8	2198.5	2204.6	2201.1	2209.8	2215.9	2209.8
45°	2399.8	2405.0	2410.2	2436.4	2440.7	2444.2	2448.6	2437.3	2446.8	2452.1	2450.3
47.5°	2640.3	2649.9	2661.2	2688.2	2705.6	2713.5	2717.0	2703.9	2704.8	2712.6	2713.5
50°	2912.2	2922.6	2934.0	2964.4	2981.0	2994.9	2999.3	2984.5	2986.2	2992.3	2994.1
52.5°	3163.1	3175.3	3199.7	3240.7	3264.2	3288.6	3290.3	3272.0	3279.9	3284.2	3280.8
55°	3399.3	3415.0	3447.2	3502.1	3544.8	3592.7	3614.5	3594.5	3594.5	3591.0	3589.2
57.5°	3674.6	3692.1	3725.2	3788.8	3848.0	3916.9	3976.1	3996.2	4032.8	4045.0	4025.8
60°	4089.4	4107.7	4141.7	4225.3	4300.3	4400.5	4498.1	4577.4	4706.3	4776.1	4713.3
62.5°	4468.5	4496.3	4576.5	4722.9	4885.0	5070.6	5285.8	5439.2	5673.6	5790.3	5632.6
65°	4382.2	4438.8	4595.7	4825.7	5160.3	5562.9	6001.2	6422.1	6906.6	7154.9	6834.3
67.5°	3828.0	3875.9	4045.0	4312.5	4729.9	5284.9	5966.4	6837.8	7837.2	8302.5	7735.3
68°	3616.2	3706.0	3874.2	4139.9	4560.8	5106.3	5833.9	6775.0	7866.0	8368.8	7756.2
70°	2772.7	2805.0	2966.2	3205.0	3658.9	4194.0	4928.5	6001.2	7234.2	7751.8	7121.8
72.5°	1317.5	1336.7	1441.3	1676.5	1965.0	2400.7	3049.0	4060.7	5171.7	5710.2	5081.9
75°	482.7	487.1	511.5	567.3	675.3	839.1	1150.2	1779.4	2634.2	3141.3	2644.7
77.5°	260.5	261.4	271.0	284.9	304.1	325.9	373.0	500.2	806.9	1097.9	852.2
80°	163.8	162.9	172.5	183.9	196.9	207.4	211.7	226.6	255.3	298.9	274.5
82.5°	83.7	91.5	113.3	125.5	144.6	148.1	143.8	142.9	151.6	163.8	169.0
85°	46.2	41.0	60.1	80.2	87.1	89.8	90.6	85.4	83.7	81.9	86.3
87.5°	23.5	21.8	26.1	40.1	42.7	34.9	35.7	30.5	20.9	20.9	21.8
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1419.5	1419.5	1419.5	1419.5	1419.5	1419.5	1419.5	1419.5
2.5°	1409.0	1409.9	1408.2	1408.2	1408.2	1409.0	1408.2	1407.3
5°	1397.7	1399.4	1399.4	1400.3	1401.2	1401.2	1401.2	1401.2
7.5°	1381.1	1382.0	1383.8	1383.8	1383.8	1383.8	1383.8	1383.8
10°	1365.5	1363.7	1362.8	1361.1	1361.1	1358.5	1359.4	1360.2
12.5°	1357.6	1354.1	1352.4	1349.8	1348.0	1345.4	1345.4	1346.3
15°	1361.1	1355.9	1350.6	1348.9	1347.2	1345.4	1343.7	1344.5
17.5°	1368.1	1362.0	1355.9	1352.4	1348.9	1346.3	1345.4	1346.3
20°	1382.9	1374.2	1364.6	1358.5	1351.5	1349.8	1347.2	1349.8
22.5°	1402.9	1392.5	1380.3	1368.9	1361.1	1357.6	1354.1	1356.7
25°	1427.3	1416.0	1403.8	1390.7	1382.0	1379.4	1375.0	1375.0
27.5°	1461.3	1451.7	1441.3	1429.1	1420.4	1417.7	1410.8	1410.8
30°	1515.3	1505.8	1496.2	1485.7	1477.0	1474.4	1465.7	1465.7
32.5°	1586.8	1576.3	1570.2	1561.5	1554.5	1550.2	1539.7	1538.9
35°	1682.6	1673.1	1672.2	1666.1	1659.1	1660.0	1649.5	1647.8
37.5°	1820.3	1812.5	1815.1	1809.9	1803.8	1809.0	1802.9	1802.9
40°	1996.3	1993.7	1996.3	1992.9	1993.7	1994.6	1989.4	1991.1
42.5°	2209.0	2202.0	2217.7	2215.9	2213.3	2220.3	2208.1	2199.4
45°	2453.8	2451.2	2466.9	2469.5	2464.3	2468.6	2446.8	2446.0
47.5°	2719.6	2719.6	2733.5	2731.8	2726.6	2727.4	2701.3	2684.7
50°	2996.7	2994.9	3008.9	3005.4	2998.4	2997.6	2970.5	2954.0
52.5°	3285.1	3285.1	3305.2	3295.6	3279.0	3271.2	3238.1	3216.3
55°	3604.0	3599.7	3605.8	3574.4	3542.2	3518.6	3477.7	3461.1
57.5°	4007.5	3957.0	3913.4	3873.3	3828.0	3800.1	3752.2	3734.8
60°	4580.0	4444.9	4386.5	4306.4	4231.4	4194.0	4130.4	4096.4
62.5°	5373.0	5149.0	4990.4	4813.5	4642.7	4522.5	4425.8	4383.1
65°	6289.7	5801.7	5398.2	5019.2	4697.6	4442.3	4300.3	4255.8
67.5°	6638.2	5742.4	5046.2	4502.4	4112.1	3807.9	3638.0	3602.3
68°	6564.1	5606.5	4883.2	4326.4	3934.3	3627.6	3458.5	3426.3
70°	5790.3	4729.9	3966.5	3412.3	3046.4	2754.4	2635.1	2583.7
72.5°	3947.4	3037.6	2330.1	1863.9	1590.3	1405.5	1295.7	1258.3
75°	1816.8	1227.8	820.0	612.6	520.2	475.8	441.8	433.1
77.5°	529.8	385.2	331.1	306.7	288.4	272.7	261.4	260.5
80°	251.8	236.1	229.2	213.5	196.9	182.1	171.7	173.4
82.5°	169.0	164.7	164.7	149.0	122.9	105.4	87.1	78.4
85°	89.8	93.2	98.5	93.2	81.0	60.1	39.2	42.7
87.5°	30.5	34.9	36.6	35.7	32.2	24.4	18.3	18.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)