

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: P196412

Luminaire Tested: **NAV-AF-02-D-UNV-5MQ-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196412
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-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 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: 13762.3 lumens
Efficiency: N/A
Efficacy: 106.7 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

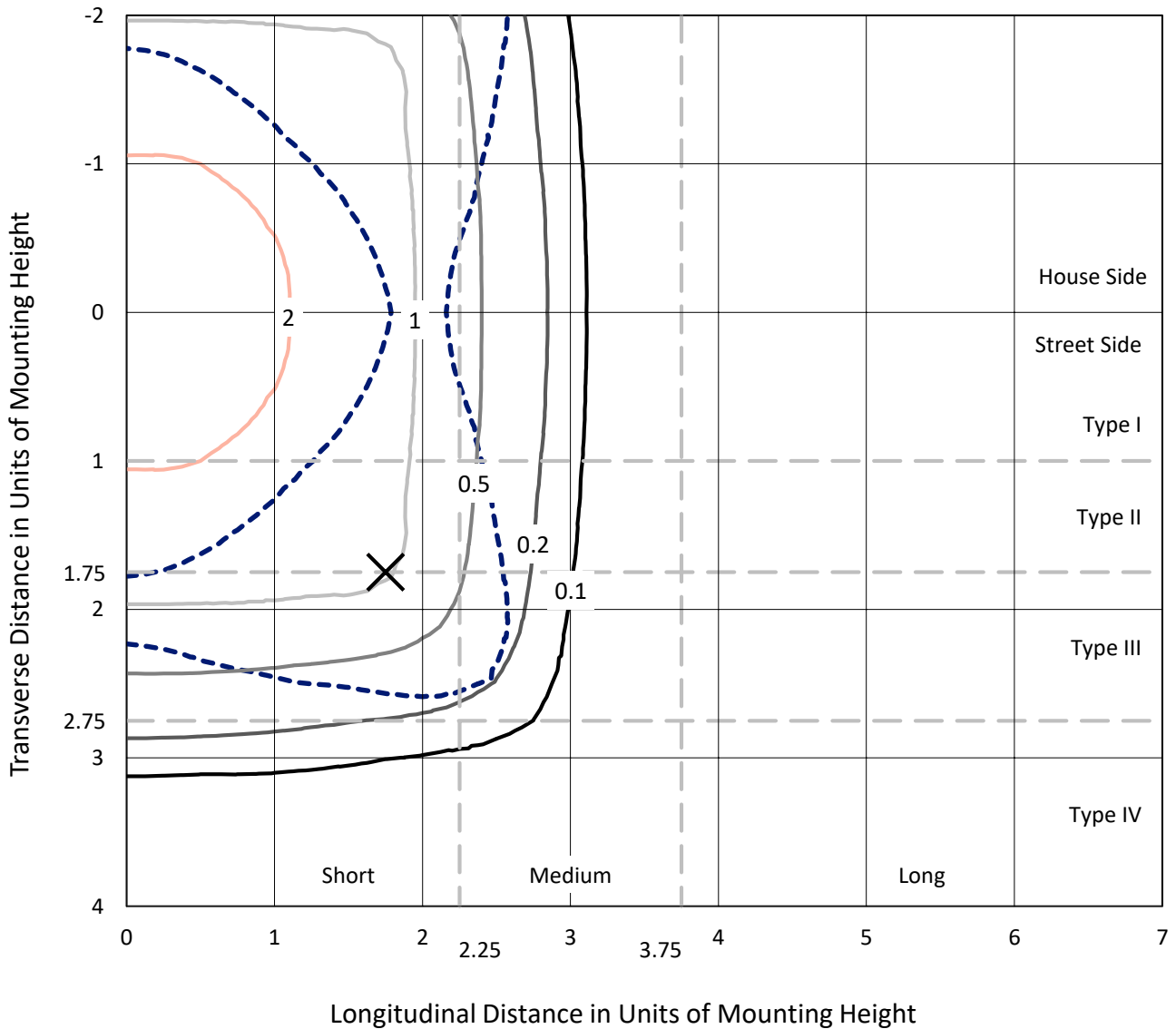
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

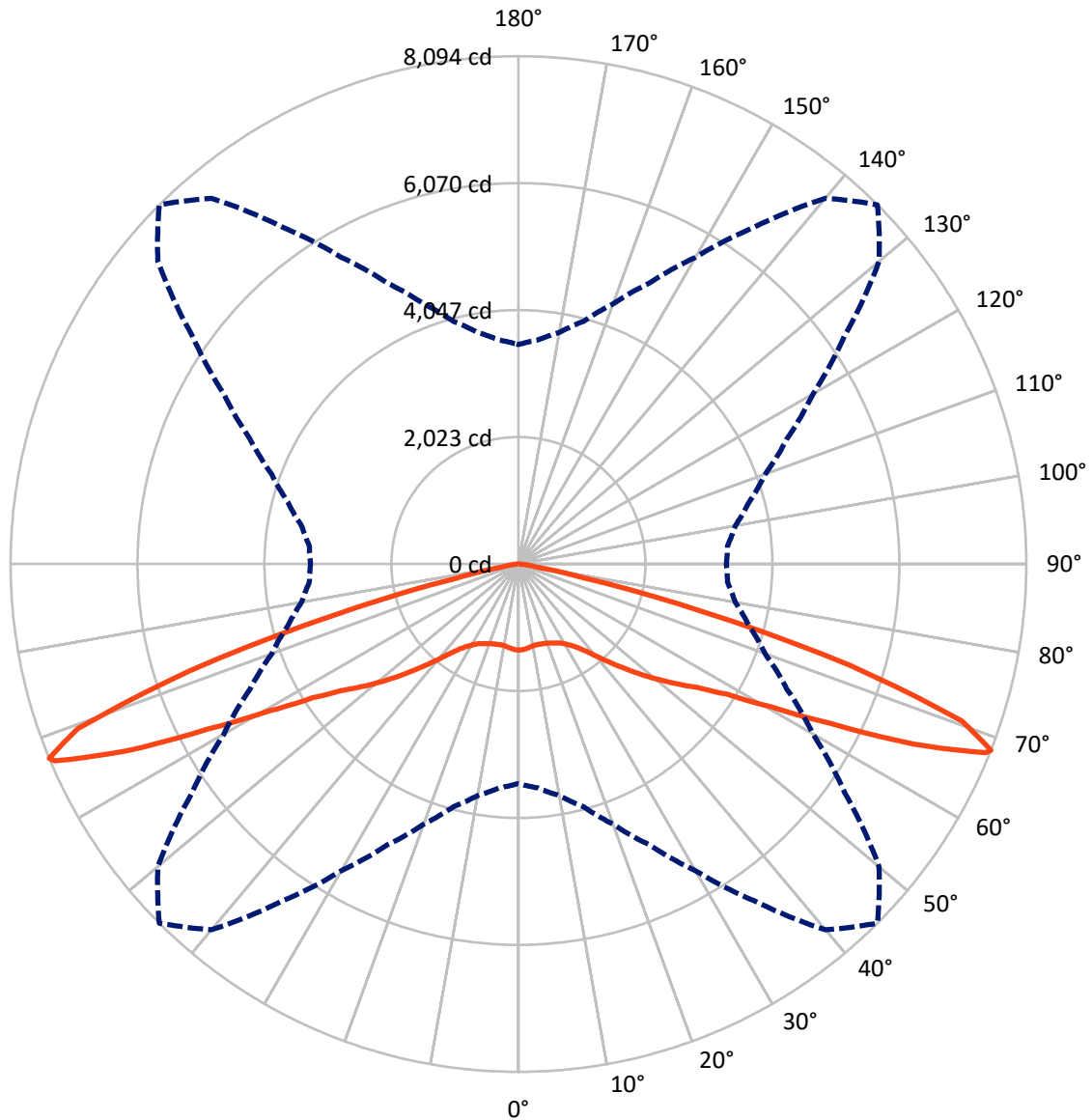


Based on 20 foot mounting height. Maximum calculated value = 3.4 fc
 Type V - Short - Full Cutoff

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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	6881.1	0.0	6881.1
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6881.1	0.0	6881.1
	% Fixture	50.0	0.0	50.0
Total	Lumens	13762.3	0.0	13762.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.5	0.9
10°-20°	372.6	2.7
20°-30°	633.4	4.6
30°-40°	1036.5	7.5
40°-50°	1852.4	13.5
50°-60°	3128.4	22.7
60°-70°	4851.0	35.2
70°-80°	1667.9	12.1
80°-90°	91.7	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°	13762.3	100.0
0°-180°	13762.3	100.0



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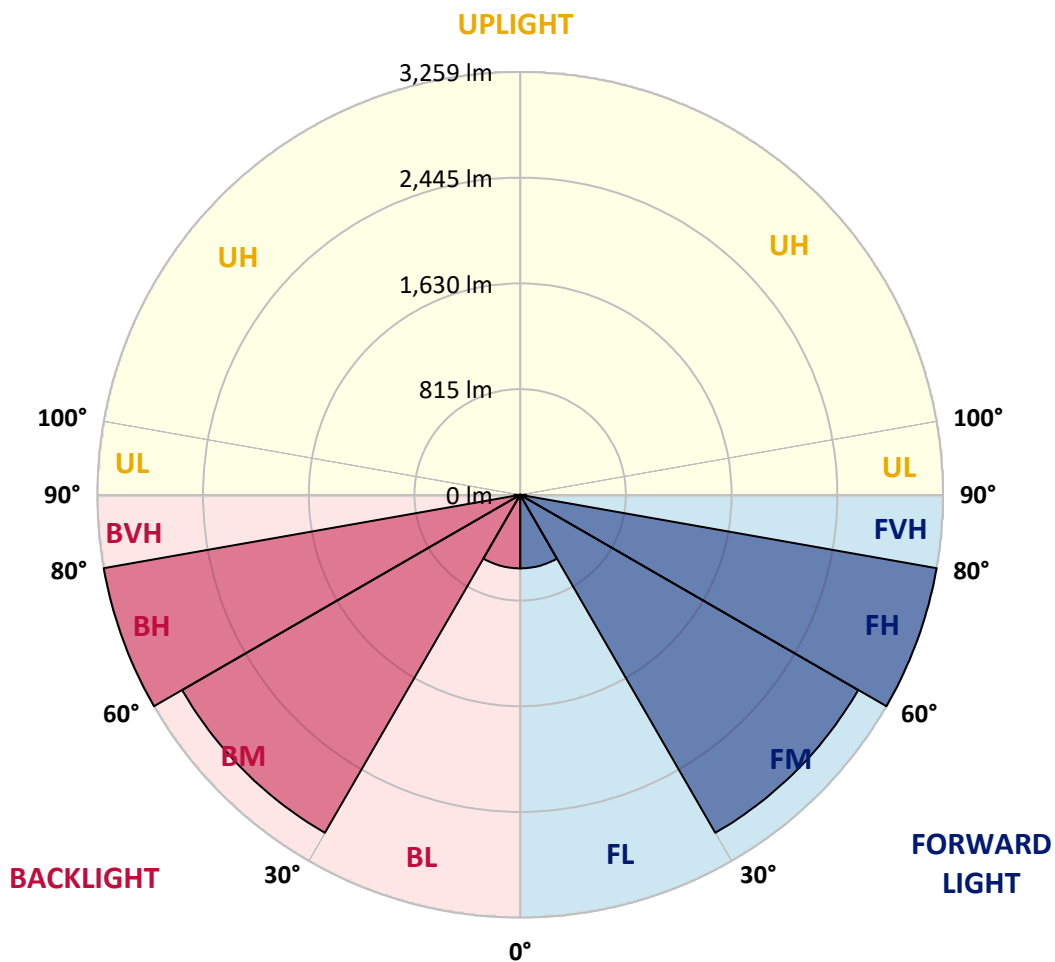
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	567.2	4.1			
FM	(30°-60°)	3008.7	21.9			
FH	(60°-80°)	3259.5	23.7			G2/5000
FVH	(80°-90°)	45.8	0.3			G1/100
BL	(0°-30°)	567.2	4.1	B2/1000		
BM	(30°-60°)	3008.7	21.9	B3/5000		
BH	(60°-80°)	3259.5	23.7	B4/5000		G2/5000
BVH	(80°-90°)	45.8	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°	1372.9	1372.9	1372.9	1372.9	1372.9	1372.9	1372.9	1372.9	1372.9	1372.9	1372.9
2.5°	1378.8	1378.8	1380.4	1379.6	1377.0	1374.5	1372.0	1369.4	1367.8	1366.1	1364.4
5°	1364.4	1364.4	1367.0	1365.2	1363.5	1361.1	1359.3	1356.8	1355.2	1353.4	1354.3
7.5°	1345.8	1347.5	1349.3	1348.4	1345.0	1344.2	1341.6	1340.8	1339.1	1336.6	1337.5
10°	1329.9	1330.7	1332.4	1331.6	1330.7	1328.1	1327.3	1326.5	1325.7	1322.2	1321.4
12.5°	1313.9	1315.5	1317.2	1318.1	1317.2	1318.1	1318.9	1319.8	1318.9	1317.2	1317.2
15°	1301.2	1302.9	1305.4	1308.0	1308.8	1313.9	1317.2	1320.6	1323.1	1324.0	1321.4
17.5°	1294.5	1297.0	1300.4	1305.4	1309.6	1315.5	1321.4	1326.5	1330.7	1331.6	1329.0
20°	1293.6	1296.2	1301.2	1307.1	1314.7	1322.2	1331.6	1339.1	1343.4	1345.8	1343.4
22.5°	1299.5	1302.9	1309.6	1317.2	1326.5	1336.6	1348.4	1356.8	1365.2	1368.6	1366.1
25°	1316.3	1319.8	1327.3	1336.6	1346.7	1359.3	1371.1	1382.1	1390.6	1394.7	1391.4
27.5°	1351.7	1352.6	1361.1	1371.1	1382.9	1393.9	1409.1	1414.2	1420.9	1425.1	1420.9
30°	1401.5	1403.2	1410.7	1426.8	1437.8	1452.0	1460.5	1465.5	1473.2	1477.3	1472.3
32.5°	1477.3	1479.1	1485.7	1500.9	1511.0	1522.0	1532.2	1535.5	1543.1	1548.1	1542.2
35°	1584.4	1587.7	1593.6	1603.7	1612.1	1620.7	1628.2	1625.7	1630.7	1637.5	1631.6
37.5°	1731.0	1730.1	1731.9	1739.4	1747.8	1752.9	1764.7	1758.8	1763.9	1769.8	1766.4
40°	1902.1	1902.1	1901.2	1914.8	1918.0	1923.2	1935.7	1928.2	1935.0	1941.6	1935.7
42.5°	2096.8	2100.1	2104.4	2115.3	2124.5	2126.3	2132.2	2128.8	2137.2	2143.1	2137.2
45°	2320.8	2326.0	2331.0	2356.2	2360.5	2364.0	2368.0	2357.2	2366.4	2371.5	2369.9
47.5°	2553.5	2562.7	2573.7	2599.9	2616.8	2624.3	2627.6	2615.0	2615.8	2623.5	2624.3
50°	2816.4	2826.5	2837.6	2867.0	2883.1	2896.5	2900.8	2886.4	2888.0	2894.0	2895.7
52.5°	3059.2	3071.0	3094.5	3134.2	3156.9	3180.5	3182.1	3164.4	3172.2	3176.2	3172.9
55°	3287.5	3302.7	3333.9	3387.0	3428.3	3474.7	3495.7	3476.3	3476.3	3473.0	3471.2
57.5°	3553.8	3570.7	3602.8	3664.2	3721.6	3788.1	3845.5	3864.8	3900.2	3912.0	3893.5
60°	3954.9	3972.6	4005.6	4086.6	4159.0	4255.8	4350.2	4426.9	4551.6	4619.1	4558.4
62.5°	4321.6	4348.5	4426.1	4567.7	4724.4	4903.9	5112.1	5260.4	5487.1	5600.1	5447.4
65°	4238.1	4292.9	4444.6	4667.1	4990.8	5380.0	5804.0	6211.1	6679.6	6919.7	6609.6
67.5°	3702.1	3748.5	3912.0	4170.8	4574.4	5111.2	5770.3	6613.0	7579.7	8029.7	7481.1
68°	3497.4	3584.1	3746.8	4004.0	4410.9	4938.5	5642.1	6552.4	7607.5	8093.7	7501.3
70°	2681.7	2712.8	2868.7	3099.5	3538.7	4056.1	4766.6	5804.0	6996.4	7497.1	6887.7
72.5°	1274.2	1292.7	1393.9	1621.4	1900.3	2321.8	2948.8	3927.3	5001.7	5522.5	4914.9
75°	466.9	471.1	494.7	548.6	653.2	811.6	1112.4	1720.9	2547.6	3038.1	2557.8
77.5°	252.0	252.8	262.1	275.6	294.1	315.2	360.7	483.7	780.3	1061.9	824.3
80°	158.4	157.6	166.8	177.8	190.4	200.6	204.8	219.1	246.9	289.1	265.5
82.5°	80.9	88.5	109.6	121.4	139.9	143.2	139.1	138.2	146.6	158.4	163.5
85°	44.7	39.7	58.1	77.6	84.2	86.8	87.6	82.6	80.9	79.2	83.5
87.5°	22.7	21.1	25.2	38.8	41.3	33.8	34.5	29.5	20.2	20.2	21.1
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°	1372.9	1372.9	1372.9	1372.9	1372.9	1372.9	1372.9	1372.9
2.5°	1362.7	1363.5	1361.9	1361.9	1361.9	1362.7	1361.9	1361.1
5°	1351.7	1353.4	1353.4	1354.3	1355.2	1355.2	1355.2	1355.2
7.5°	1335.8	1336.6	1338.3	1338.3	1338.3	1338.3	1338.3	1338.3
10°	1320.6	1318.9	1318.1	1316.3	1316.3	1313.9	1314.7	1315.5
12.5°	1313.0	1309.6	1308.0	1305.4	1303.7	1301.2	1301.2	1302.1
15°	1316.3	1311.3	1306.3	1304.5	1302.9	1301.2	1299.5	1300.4
17.5°	1323.1	1317.2	1311.3	1308.0	1304.5	1302.1	1301.2	1302.1
20°	1337.5	1329.0	1319.8	1313.9	1307.1	1305.4	1302.9	1305.4
22.5°	1356.8	1346.7	1334.9	1324.0	1316.3	1313.0	1309.6	1312.2
25°	1380.4	1369.4	1357.6	1345.0	1336.6	1334.0	1329.9	1329.9
27.5°	1413.3	1404.0	1393.9	1382.1	1373.7	1371.1	1364.4	1364.4
30°	1465.5	1456.2	1447.0	1436.9	1428.4	1426.0	1417.5	1417.5
32.5°	1534.6	1524.5	1518.6	1510.2	1503.4	1499.2	1489.1	1488.3
35°	1627.3	1618.0	1617.2	1611.3	1604.6	1605.4	1595.3	1593.6
37.5°	1760.5	1752.9	1755.5	1750.4	1744.5	1749.6	1743.7	1743.7
40°	1930.7	1928.2	1930.7	1927.4	1928.2	1929.1	1923.9	1925.7
42.5°	2136.3	2129.6	2144.8	2143.1	2140.6	2147.3	2135.5	2127.1
45°	2373.2	2370.6	2385.7	2388.3	2383.3	2387.6	2366.4	2365.6
47.5°	2630.2	2630.2	2643.6	2642.0	2637.0	2637.7	2612.5	2596.5
50°	2898.2	2896.5	2910.0	2906.7	2899.8	2899.0	2872.9	2856.9
52.5°	3177.2	3177.2	3196.5	3187.3	3171.2	3163.7	3131.6	3110.6
55°	3485.6	3481.3	3487.2	3457.0	3425.8	3403.0	3363.4	3347.3
57.5°	3875.8	3827.0	3784.7	3746.0	3702.1	3675.2	3628.8	3612.0
60°	4429.5	4298.8	4242.4	4164.9	4092.5	4056.1	3994.6	3961.7
62.5°	5196.4	4979.8	4826.4	4655.3	4490.1	4373.8	4280.3	4239.0
65°	6082.9	5611.0	5220.9	4854.2	4543.2	4296.3	4159.0	4116.1
67.5°	6420.1	5553.6	4880.3	4354.4	3976.9	3682.8	3518.4	3484.0
68°	6348.4	5422.2	4722.7	4184.2	3805.0	3508.4	3344.9	3313.8
70°	5600.1	4574.4	3836.2	3300.1	2946.2	2664.0	2548.5	2498.8
72.5°	3817.6	2937.8	2253.5	1802.7	1538.1	1359.3	1253.2	1216.9
75°	1757.1	1187.4	793.0	592.4	503.1	460.1	427.3	418.8
77.5°	512.4	372.5	320.2	296.6	278.9	263.8	252.8	252.0
80°	243.5	228.4	221.7	206.5	190.4	176.1	166.1	167.7
82.5°	163.5	159.3	159.3	144.1	118.9	101.9	84.2	75.8
85°	86.8	90.1	95.3	90.1	78.3	58.1	37.9	41.3
87.5°	29.5	33.8	35.4	34.5	31.1	23.6	17.7	17.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)