

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: P196876

Luminaire Tested: **NAV-AF-04-D-UNV-5MQ-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196876
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-04-D-UNV-5MQ-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13968 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

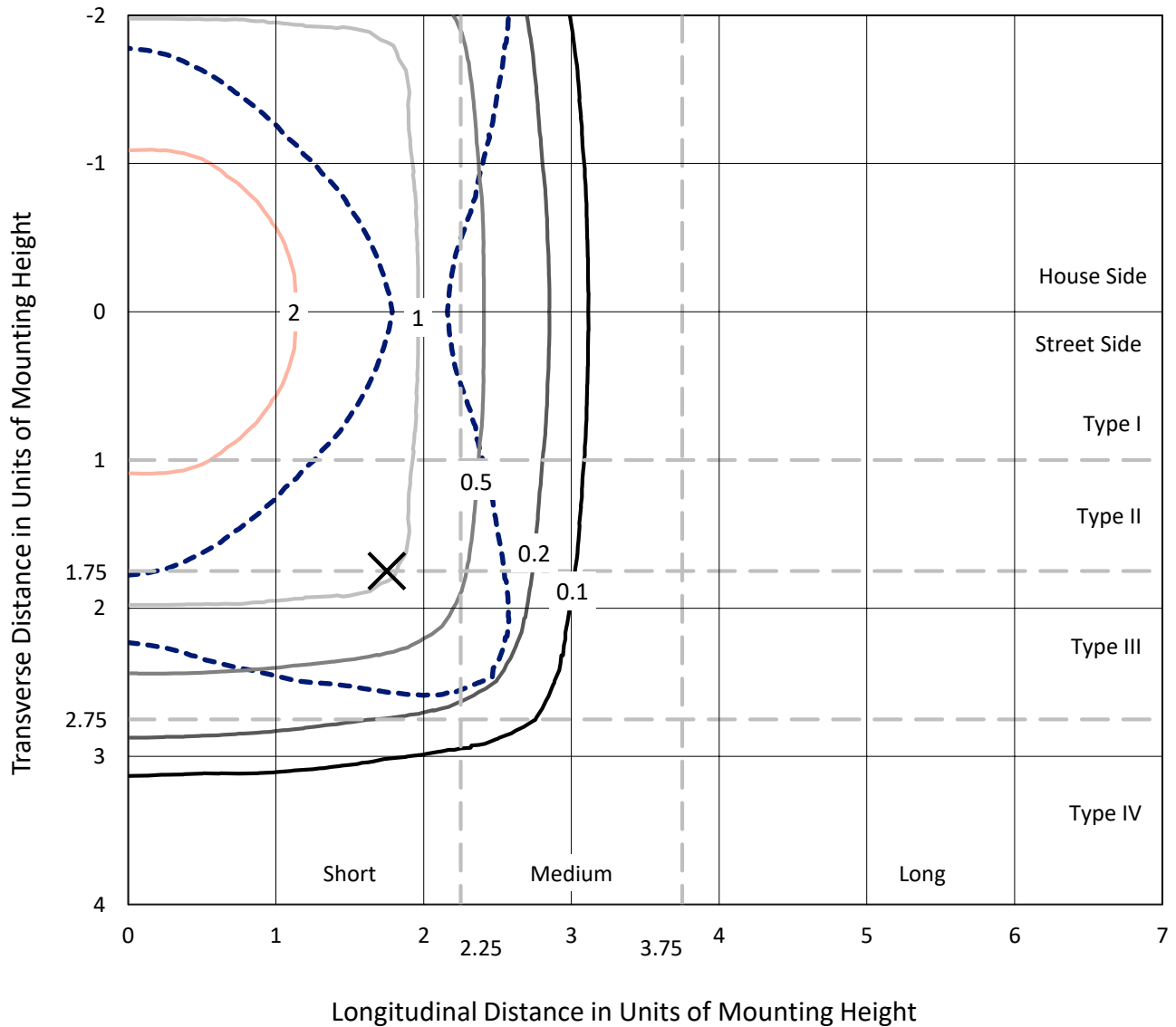
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

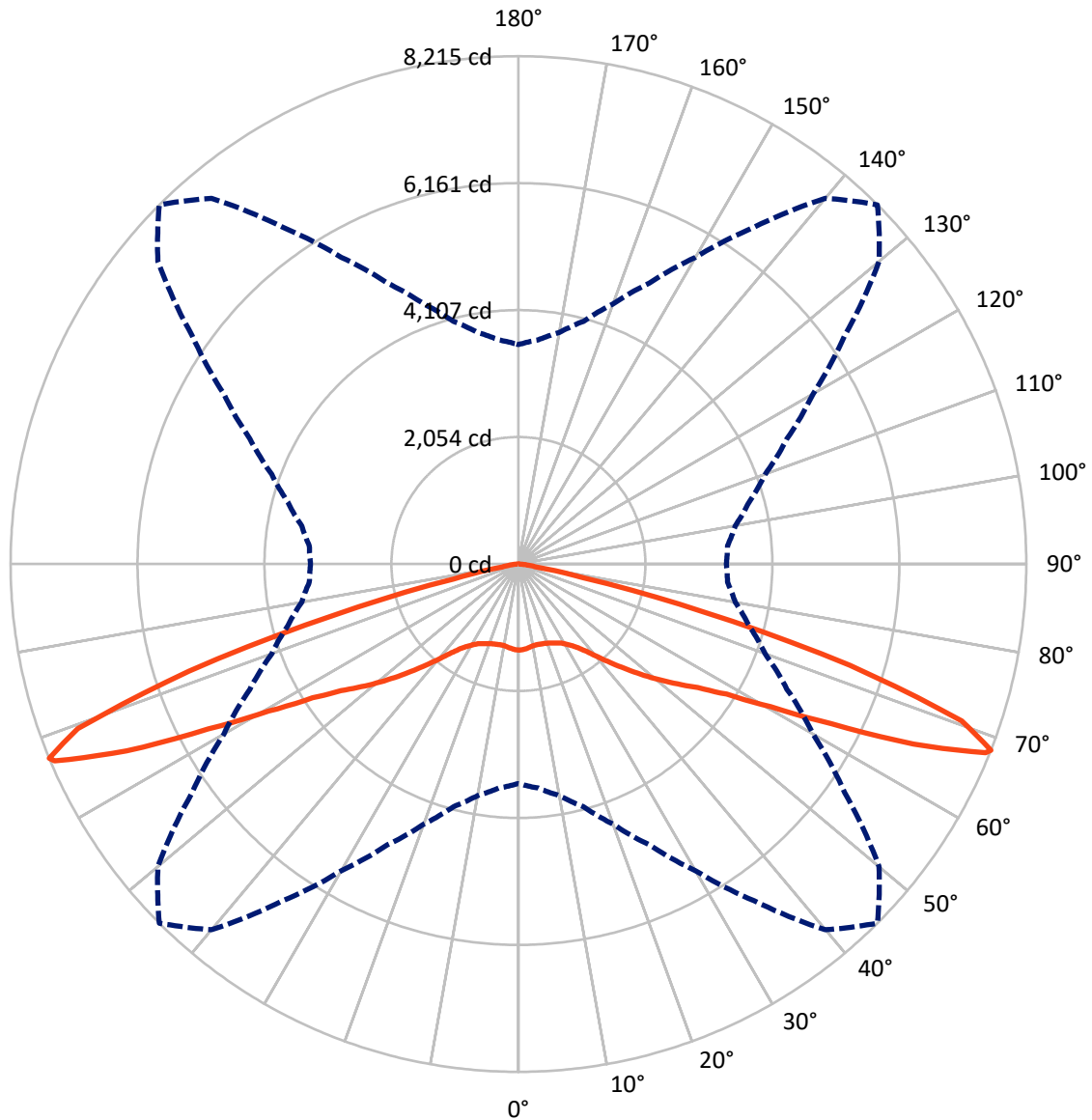
× Max cd
 - - - 1/2 Max cd



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	6984.0	0.0	6984.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6984.0	0.0	6984.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	13968.0	0.0	13968.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.4	0.9
10°-20°	378.1	2.7
20°-30°	642.8	4.6
30°-40°	1052.0	7.5
40°-50°	1880.1	13.5
50°-60°	3175.2	22.7
60°-70°	4923.5	35.2
70°-80°	1692.8	12.1
80°-90°	93.0	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°	13968.0	100.0
0°-180°	13968.0	100.0



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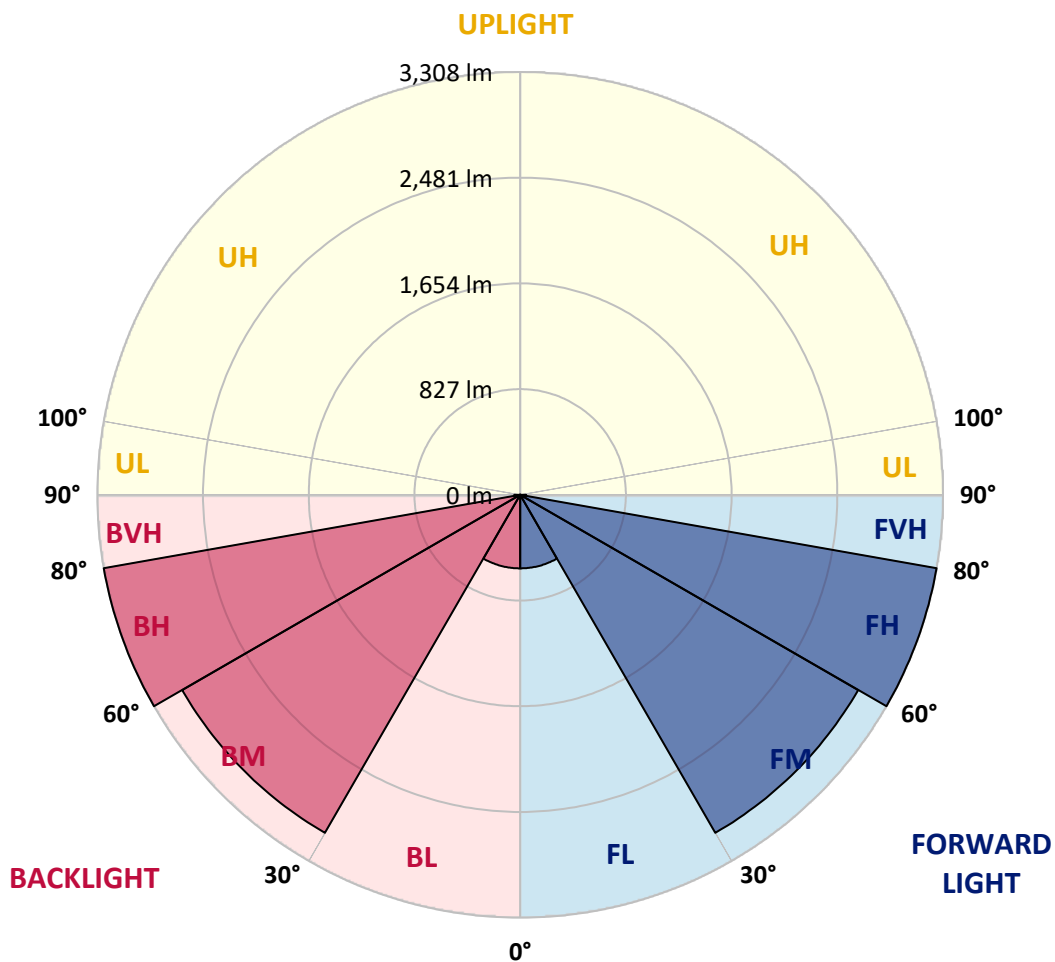
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	575.7	4.1			
FM (30°-60°)	3053.6	21.9			
FH (60°-80°)	3308.2	23.7			G2/5000
FVH (80°-90°)	46.5	0.3			G1/100
BL (0°-30°)	575.7	4.1	B2/1000		
BM (30°-60°)	3053.6	21.9	B3/5000		
BH (60°-80°)	3308.2	23.7	B4/5000		G2/5000
BVH (80°-90°)	46.5	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°	1393.3	1393.3	1393.3	1393.3	1393.3	1393.3	1393.3	1393.3	1393.3	1393.3	1393.3
2.5°	1399.3	1399.3	1401.0	1400.2	1397.6	1395.1	1392.5	1389.9	1388.2	1386.5	1384.8
5°	1384.8	1384.8	1387.4	1385.7	1383.9	1381.4	1379.7	1377.1	1375.4	1373.7	1374.5
7.5°	1366.0	1367.7	1369.4	1368.5	1365.1	1364.3	1361.7	1360.8	1359.1	1356.6	1357.4
10°	1349.7	1350.6	1352.3	1351.4	1350.6	1348.0	1347.2	1346.3	1345.5	1342.0	1341.2
12.5°	1333.5	1335.2	1336.9	1337.8	1336.9	1337.8	1338.6	1339.5	1338.6	1336.9	1336.9
15°	1320.6	1322.4	1324.9	1327.5	1328.3	1333.5	1336.9	1340.3	1342.9	1343.7	1341.2
17.5°	1313.8	1316.4	1319.8	1324.9	1329.2	1335.2	1341.2	1346.3	1350.6	1351.4	1348.9
20°	1312.9	1315.5	1320.6	1326.6	1334.3	1342.0	1351.4	1359.1	1363.4	1366.0	1363.4
22.5°	1318.9	1322.4	1329.2	1336.9	1346.3	1356.6	1368.5	1377.1	1385.7	1389.1	1386.5
25°	1336.0	1339.5	1347.2	1356.6	1366.8	1379.7	1391.6	1402.8	1411.3	1415.6	1412.2
27.5°	1372.0	1372.8	1381.4	1391.6	1403.6	1414.7	1430.1	1435.3	1442.1	1446.4	1442.1
30°	1422.4	1424.1	1431.8	1448.1	1459.2	1473.8	1482.3	1487.4	1495.1	1499.4	1494.3
32.5°	1499.4	1501.1	1508.0	1523.4	1533.6	1544.7	1555.0	1558.4	1566.1	1571.3	1565.3
35°	1608.0	1611.5	1617.4	1627.7	1636.3	1644.8	1652.5	1650.0	1655.1	1661.9	1655.9
37.5°	1756.9	1756.0	1757.7	1765.4	1774.0	1779.1	1791.1	1785.1	1790.2	1796.2	1792.8
40°	1930.5	1930.5	1929.6	1943.3	1946.8	1951.9	1964.7	1957.0	1963.9	1970.7	1964.7
42.5°	2128.1	2131.5	2135.8	2146.9	2156.3	2158.0	2164.0	2160.6	2169.1	2175.1	2169.1
45°	2355.6	2360.7	2365.9	2391.5	2395.8	2399.2	2403.5	2392.4	2401.8	2406.9	2405.2
47.5°	2591.7	2601.1	2612.2	2638.7	2655.8	2663.5	2667.0	2654.1	2655.0	2662.7	2663.5
50°	2858.5	2868.8	2879.9	2909.9	2926.1	2939.8	2944.1	2929.5	2931.3	2937.2	2938.9
52.5°	3104.9	3116.9	3140.8	3181.0	3204.1	3228.1	3229.8	3211.8	3219.5	3223.8	3220.4
55°	3336.7	3352.1	3383.7	3437.6	3479.5	3526.6	3548.0	3528.3	3528.3	3524.9	3523.1
57.5°	3607.0	3624.1	3656.6	3719.0	3777.2	3844.8	3902.9	3922.6	3958.5	3970.5	3951.7
60°	4014.1	4032.1	4065.4	4147.5	4221.1	4319.5	4415.3	4493.1	4619.7	4688.1	4626.5
62.5°	4386.2	4413.6	4492.2	4635.9	4795.0	4977.2	5188.5	5339.0	5569.1	5683.7	5528.9
65°	4301.5	4357.1	4511.1	4736.9	5065.3	5460.5	5890.7	6303.9	6779.4	7023.2	6708.4
67.5°	3757.5	3804.6	3970.5	4233.1	4642.8	5187.6	5856.5	6711.9	7692.9	8149.7	7592.9
68°	3549.7	3637.8	3802.8	4063.7	4476.9	5012.3	5726.5	6650.3	7721.2	8214.7	7613.4
70°	2721.7	2753.3	2911.6	3145.9	3591.6	4116.8	4837.8	5890.7	7101.0	7609.1	6990.7
72.5°	1293.3	1312.1	1414.7	1645.7	1928.8	2356.5	2992.8	3985.9	5076.4	5605.0	4988.3
75°	473.9	478.1	502.1	556.8	662.9	823.7	1129.0	1746.6	2585.7	3083.5	2596.0
77.5°	255.7	256.6	266.0	279.7	298.5	319.9	366.1	491.0	792.0	1077.7	836.5
80°	160.8	159.9	169.4	180.5	193.3	203.6	207.8	222.4	250.6	293.4	269.4
82.5°	82.1	89.8	111.2	123.2	142.0	145.4	141.1	140.3	148.8	160.8	165.9
85°	45.3	40.2	59.0	78.7	85.5	88.1	89.0	83.8	82.1	80.4	84.7
87.5°	23.1	21.4	25.7	39.3	41.9	34.2	35.1	29.9	20.5	20.5	21.4
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1393.3	1393.3	1393.3	1393.3	1393.3	1393.3	1393.3	1393.3
2.5°	1383.1	1383.9	1382.2	1382.2	1382.2	1383.1	1382.2	1381.4
5°	1372.0	1373.7	1373.7	1374.5	1375.4	1375.4	1375.4	1375.4
7.5°	1355.7	1356.6	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3
10°	1340.3	1338.6	1337.8	1336.0	1336.0	1333.5	1334.3	1335.2
12.5°	1332.6	1329.2	1327.5	1324.9	1323.2	1320.6	1320.6	1321.5
15°	1336.0	1330.9	1325.8	1324.1	1322.4	1320.6	1318.9	1319.8
17.5°	1342.9	1336.9	1330.9	1327.5	1324.1	1321.5	1320.6	1321.5
20°	1357.4	1348.9	1339.5	1333.5	1326.6	1324.9	1322.4	1324.9
22.5°	1377.1	1366.8	1354.9	1343.7	1336.0	1332.6	1329.2	1331.8
25°	1401.0	1389.9	1378.0	1365.1	1356.6	1354.0	1349.7	1349.7
27.5°	1434.4	1425.0	1414.7	1402.8	1394.2	1391.6	1384.8	1384.8
30°	1487.4	1478.0	1468.6	1458.4	1449.8	1447.2	1438.7	1438.7
32.5°	1557.6	1547.3	1541.3	1532.8	1525.9	1521.7	1511.4	1510.5
35°	1651.7	1642.3	1641.4	1635.4	1628.6	1629.4	1619.2	1617.4
37.5°	1786.8	1779.1	1781.7	1776.5	1770.6	1775.7	1769.7	1769.7
40°	1959.6	1957.0	1959.6	1956.2	1957.0	1957.9	1952.7	1954.5
42.5°	2168.3	2161.4	2176.8	2175.1	2172.6	2179.4	2167.4	2158.9
45°	2408.6	2406.1	2421.5	2424.0	2418.9	2423.2	2401.8	2400.9
47.5°	2669.5	2669.5	2683.2	2681.5	2676.4	2677.2	2651.6	2635.3
50°	2941.5	2939.8	2953.5	2950.1	2943.2	2942.4	2915.9	2899.6
52.5°	3224.6	3224.6	3244.3	3234.9	3218.6	3210.9	3178.4	3157.1
55°	3537.7	3533.4	3539.4	3508.6	3477.0	3453.9	3413.7	3397.4
57.5°	3933.7	3884.1	3841.3	3802.0	3757.5	3730.1	3683.1	3666.0
60°	4495.7	4363.1	4305.8	4227.1	4153.5	4116.8	4054.3	4021.0
62.5°	5274.0	5054.2	4898.5	4724.9	4557.3	4439.2	4344.3	4302.4
65°	6173.8	5694.9	5298.8	4926.8	4611.1	4360.5	4221.1	4177.5
67.5°	6516.0	5636.7	4953.3	4419.5	4036.4	3737.8	3571.0	3536.0
68°	6443.3	5503.3	4793.3	4246.8	3861.9	3560.8	3394.8	3363.2
70°	5683.7	4642.8	3893.5	3349.5	2990.3	2703.7	2586.5	2536.1
72.5°	3874.7	2981.7	2287.2	1829.6	1561.0	1379.7	1271.9	1235.1
75°	1783.4	1205.2	804.9	601.3	510.6	467.0	433.7	425.1
77.5°	520.0	378.1	325.0	301.1	283.1	267.7	256.6	255.7
80°	247.2	231.8	225.0	209.6	193.3	178.8	168.5	170.2
82.5°	165.9	161.7	161.7	146.3	120.6	103.5	85.5	77.0
85°	88.1	91.5	96.7	91.5	79.5	59.0	38.5	41.9
87.5°	29.9	34.2	35.9	35.1	31.6	23.9	18.0	18.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)