

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: P195975

Luminaire Tested: **NAV-AF-03-D-UNV-5WQ**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195975
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24131)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-5WQ
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19277.5 lumens
Efficiency: N/A
Efficacy: 116.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B5 - U0 - G3

Input Watts (W): 166
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

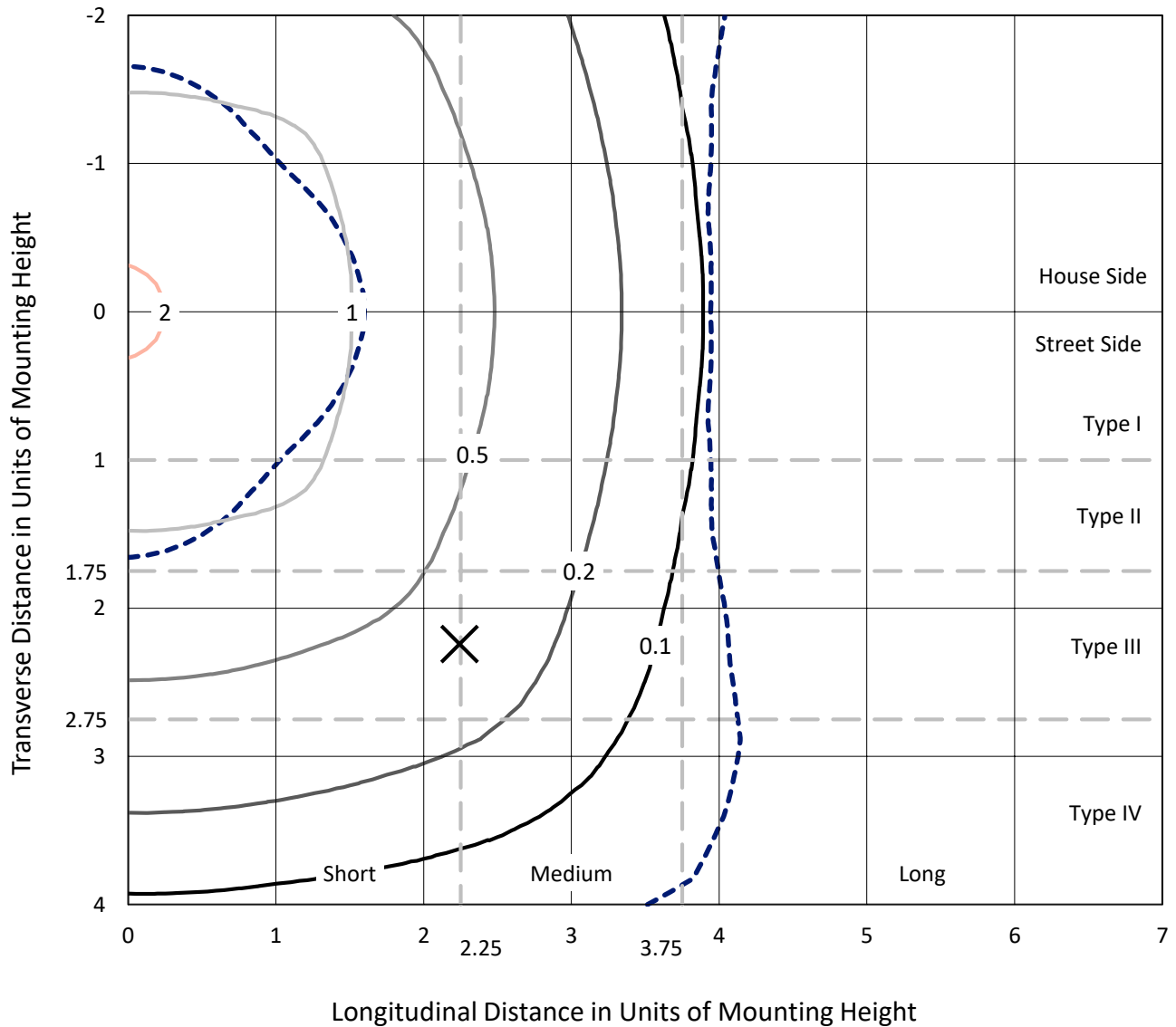


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

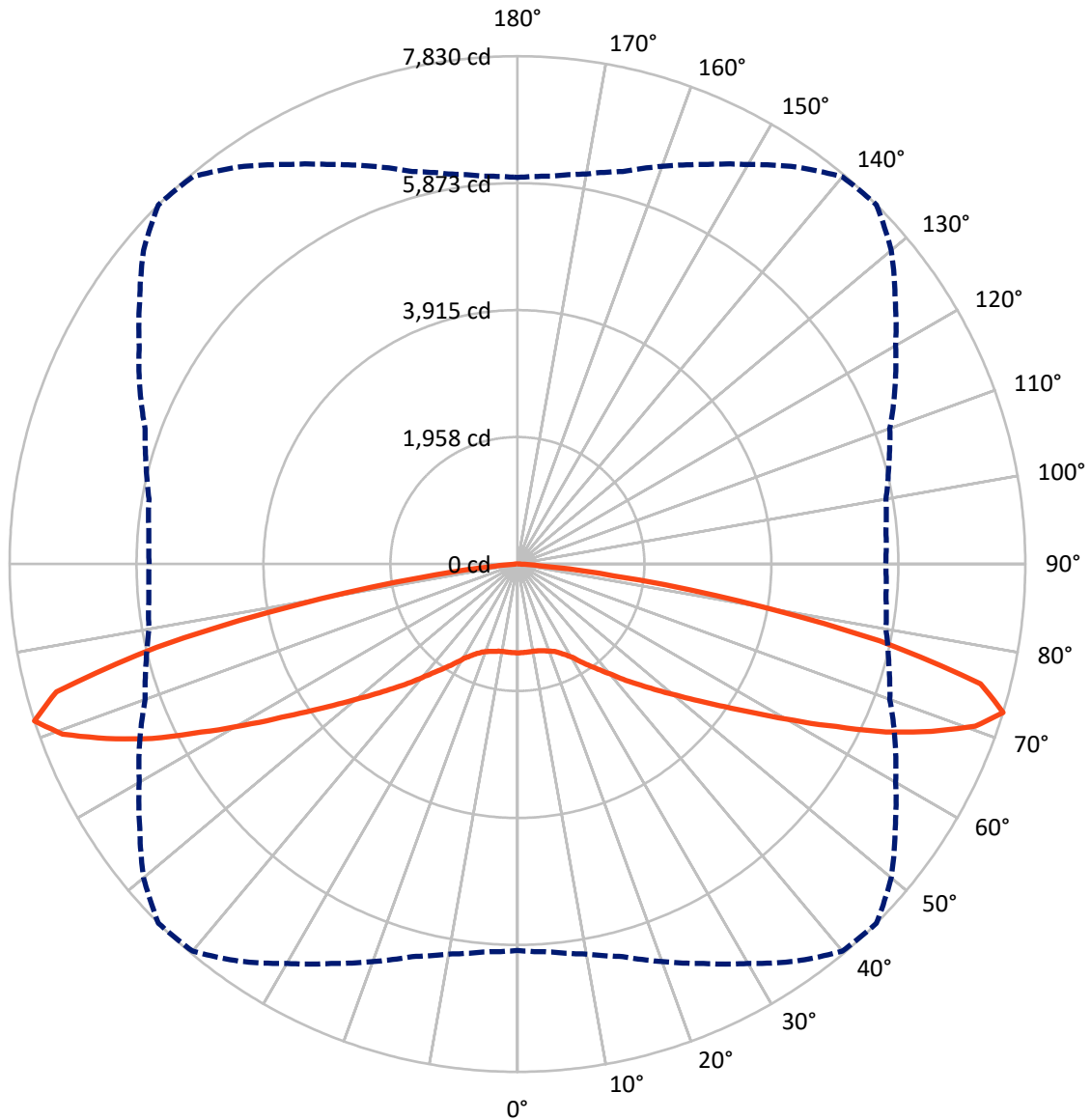


Based on 25 foot mounting height. Maximum calculated value = 2.2 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	9638.8	0.0	9638.8
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	9638.8	0.0	9638.8
	% Fixture	50.0	0.0	50.0
Total	Lumens	19277.5	0.0	19277.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.8	0.7
10°-20°	395.9	2.1
20°-30°	714.7	3.7
30°-40°	1219.1	6.3
40°-50°	2075.5	10.8
50°-60°	3340.2	17.3
60°-70°	5554.8	28.8
70°-80°	5373.6	27.9
80°-90°	472.9	2.5
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°	19277.5	100.0
0°-180°	19277.5	100.0



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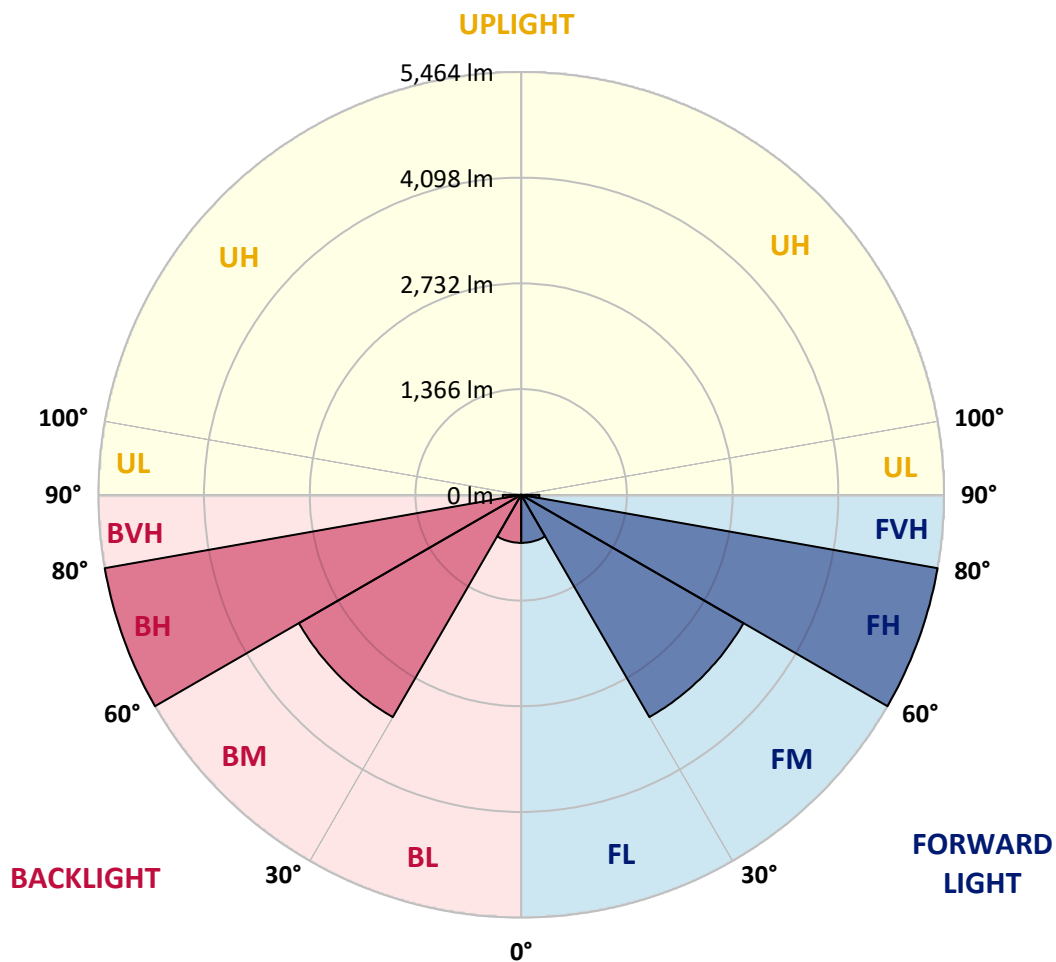
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	620.7	3.2			
FM (30°-60°)	3317.4	17.2			
FH (60°-80°)	5464.2	28.3			G3/7500
FVH (80°-90°)	236.5	1.2			G3/500
BL (0°-30°)	620.7	3.2	B2/1000		
BM (30°-60°)	3317.4	17.2	B3/5000		
BH (60°-80°)	5464.2	28.3	B5		G3/7500
BVH (80°-90°)	236.5	1.2			G3/500
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B5-U0-G3

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4
2.5°	1381.2	1381.2	1382.3	1381.2	1378.8	1377.6	1374.0	1371.7	1369.3	1368.1	1365.7
5°	1382.3	1382.3	1383.5	1382.3	1380.0	1377.6	1375.3	1371.7	1369.3	1367.0	1365.7
7.5°	1387.1	1388.2	1389.5	1388.2	1383.5	1381.2	1377.6	1374.0	1369.3	1367.0	1364.5
10°	1396.6	1396.6	1396.6	1395.4	1391.8	1387.1	1382.3	1378.8	1372.9	1367.0	1363.4
12.5°	1403.7	1404.9	1404.9	1402.6	1397.8	1391.8	1387.1	1383.5	1378.8	1374.0	1370.4
15°	1414.4	1414.4	1413.2	1408.5	1401.3	1396.6	1394.2	1393.1	1391.8	1389.5	1385.9
17.5°	1435.7	1434.6	1431.0	1423.8	1415.6	1412.0	1409.6	1409.6	1409.6	1408.5	1406.0
20°	1466.6	1466.6	1461.9	1450.0	1442.9	1439.3	1435.7	1435.7	1435.7	1432.2	1428.7
22.5°	1516.4	1517.6	1510.5	1496.3	1486.8	1479.7	1474.9	1471.3	1467.8	1465.4	1459.4
25°	1584.0	1582.9	1574.5	1556.7	1549.7	1542.5	1533.1	1527.2	1522.4	1518.8	1511.7
27.5°	1655.2	1654.1	1644.6	1629.2	1624.4	1613.7	1606.6	1598.3	1592.3	1586.4	1579.3
30°	1746.6	1740.7	1733.6	1721.7	1719.4	1711.0	1701.6	1689.7	1680.2	1670.7	1662.4
32.5°	1828.5	1828.5	1817.8	1811.9	1816.7	1813.1	1814.3	1807.1	1801.2	1797.6	1789.3
35°	1942.4	1942.4	1937.7	1930.5	1931.7	1923.5	1922.2	1923.5	1928.2	1928.2	1918.6
37.5°	2094.3	2096.6	2081.2	2078.8	2072.9	2061.0	2055.1	2057.5	2068.2	2074.1	2061.0
40°	2282.9	2287.7	2282.9	2267.6	2260.4	2240.3	2228.4	2228.4	2236.7	2242.6	2237.9
42.5°	2469.2	2477.6	2469.2	2457.3	2451.4	2436.1	2430.1	2434.8	2445.5	2452.6	2445.5
45°	2676.9	2682.8	2672.2	2657.9	2650.8	2642.5	2638.9	2642.5	2654.4	2661.5	2659.1
47.5°	2880.9	2889.3	2876.2	2870.3	2870.3	2862.0	2871.5	2880.9	2891.7	2908.2	2901.2
50°	3080.3	3091.1	3082.7	3083.9	3093.4	3108.8	3126.6	3145.6	3164.6	3182.4	3184.8
52.5°	3258.3	3275.0	3276.1	3297.5	3327.1	3350.9	3400.7	3442.2	3487.3	3502.8	3495.6
55°	3445.8	3468.3	3498.0	3531.2	3578.7	3627.4	3711.6	3786.4	3845.7	3882.4	3876.5
57.5°	3713.9	3736.5	3767.3	3821.9	3893.1	3959.5	4074.7	4190.9	4281.2	4336.9	4309.6
60°	4061.6	4085.4	4125.7	4183.9	4276.3	4366.6	4524.4	4691.7	4831.7	4895.7	4845.9
62.5°	4522.1	4544.6	4570.6	4647.8	4751.0	4867.3	5065.4	5280.3	5458.3	5519.9	5449.9
65°	5178.2	5205.5	5213.8	5276.7	5377.6	5485.5	5699.1	5941.2	6144.0	6244.9	6104.9
67.5°	5917.5	5928.1	5961.3	6034.9	6138.1	6235.4	6403.9	6632.9	6827.5	6883.2	6733.8
70°	6350.5	6371.9	6430.0	6532.1	6655.4	6808.6	6992.5	7239.2	7460.0	7486.1	7296.2
72.5°	5959.0	6002.9	6106.1	6265.1	6523.8	6795.5	7112.3	7476.5	7793.4	7830.2	7525.2
75°	4779.5	4829.4	4952.7	5127.1	5433.3	5836.8	6294.7	6841.8	7316.3	7376.9	6973.5
77.5°	2547.6	2609.2	2788.5	3023.3	3460.0	3994.0	4545.8	5169.9	5573.3	5709.8	5419.1
80°	641.9	675.1	761.8	899.4	1194.9	1625.6	2101.4	2773.0	3273.7	3486.1	3273.7
82.5°	249.2	274.0	297.8	314.5	342.9	402.2	555.4	905.3	1219.8	1502.2	1300.5
85°	96.2	102.1	147.1	167.4	167.4	183.9	211.2	249.2	308.5	337.0	282.4
87.5°	38.0	41.5	51.0	78.4	80.7	71.2	75.9	85.4	65.3	54.6	61.7
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°	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4
2.5°	1364.5	1363.4	1361.0	1362.2	1361.0	1361.0	1361.0	1361.0
5°	1363.4	1363.4	1361.0	1361.0	1361.0	1362.2	1361.0	1361.0
7.5°	1362.2	1361.0	1358.6	1357.5	1357.5	1356.2	1356.2	1356.2
10°	1359.8	1357.5	1355.1	1353.9	1353.9	1351.5	1351.5	1351.5
12.5°	1365.7	1362.2	1359.8	1358.6	1358.6	1358.6	1359.8	1359.8
15°	1382.3	1375.3	1371.7	1370.4	1371.7	1374.0	1375.3	1376.4
17.5°	1400.1	1393.1	1387.1	1384.8	1385.9	1389.5	1393.1	1395.4
20°	1422.7	1416.8	1409.6	1407.3	1407.3	1412.0	1414.4	1417.9
22.5°	1454.7	1450.0	1444.1	1440.5	1438.2	1444.1	1447.6	1450.0
25°	1505.8	1501.0	1496.3	1492.7	1491.6	1497.5	1499.9	1501.0
27.5°	1573.4	1568.6	1566.2	1565.1	1561.5	1563.9	1567.5	1566.2
30°	1661.2	1664.8	1661.2	1661.2	1655.2	1657.6	1655.2	1652.9
32.5°	1778.7	1775.1	1764.4	1757.3	1749.0	1749.0	1745.5	1741.9
35°	1896.1	1884.3	1878.3	1881.9	1878.3	1880.7	1874.8	1868.8
37.5°	2035.0	2027.8	2026.7	2037.3	2035.0	2037.3	2037.3	2029.0
40°	2218.9	2214.2	2222.5	2240.3	2247.3	2246.2	2248.5	2237.9
42.5°	2430.1	2421.8	2425.3	2440.8	2449.0	2451.4	2450.3	2440.8
45°	2641.3	2643.7	2643.7	2660.3	2668.6	2673.4	2665.0	2661.5
47.5°	2879.8	2883.4	2875.1	2885.7	2888.1	2896.4	2889.3	2883.4
50°	3155.1	3142.0	3123.1	3126.6	3126.6	3124.2	3115.9	3108.8
52.5°	3462.4	3432.7	3397.1	3385.3	3372.3	3359.2	3342.6	3329.5
55°	3812.4	3761.4	3697.4	3667.7	3642.7	3613.1	3575.1	3562.1
57.5°	4218.2	4130.5	4045.1	3991.7	3927.5	3888.3	3839.7	3837.4
60°	4699.9	4581.4	4430.6	4351.1	4287.1	4240.7	4204.0	4189.8
62.5°	5256.5	5052.5	4889.8	4804.4	4729.6	4701.2	4654.9	4660.9
65°	5827.2	5619.6	5461.7	5393.0	5322.9	5304.0	5261.2	5276.7
67.5°	6445.4	6274.6	6101.3	6037.3	5973.2	5954.2	5910.3	5923.4
70°	6999.5	6782.5	6585.5	6459.6	6350.5	6262.7	6207.0	6184.4
72.5°	7109.9	6733.8	6424.0	6109.7	5928.1	5769.1	5703.9	5678.9
75°	6388.5	5804.7	5363.3	4994.3	4790.2	4558.8	4533.9	4499.4
77.5°	4969.4	4304.9	3770.9	3296.3	3022.2	2739.8	2642.5	2568.9
80°	2964.0	2278.2	1765.6	1237.6	1009.8	812.8	764.1	713.1
82.5°	1060.8	679.9	458.0	357.1	319.2	294.3	275.3	250.3
85°	256.2	215.9	204.1	185.2	182.7	155.5	110.4	98.5
87.5°	81.8	74.8	75.9	72.4	75.9	57.0	46.2	41.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)