

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: P270482

Luminaire Tested: **NAV-AF-04-D-UNV-5MQ-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270482
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-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 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: 14872.4 lumens
Efficiency: N/A
Efficacy: 115.3 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

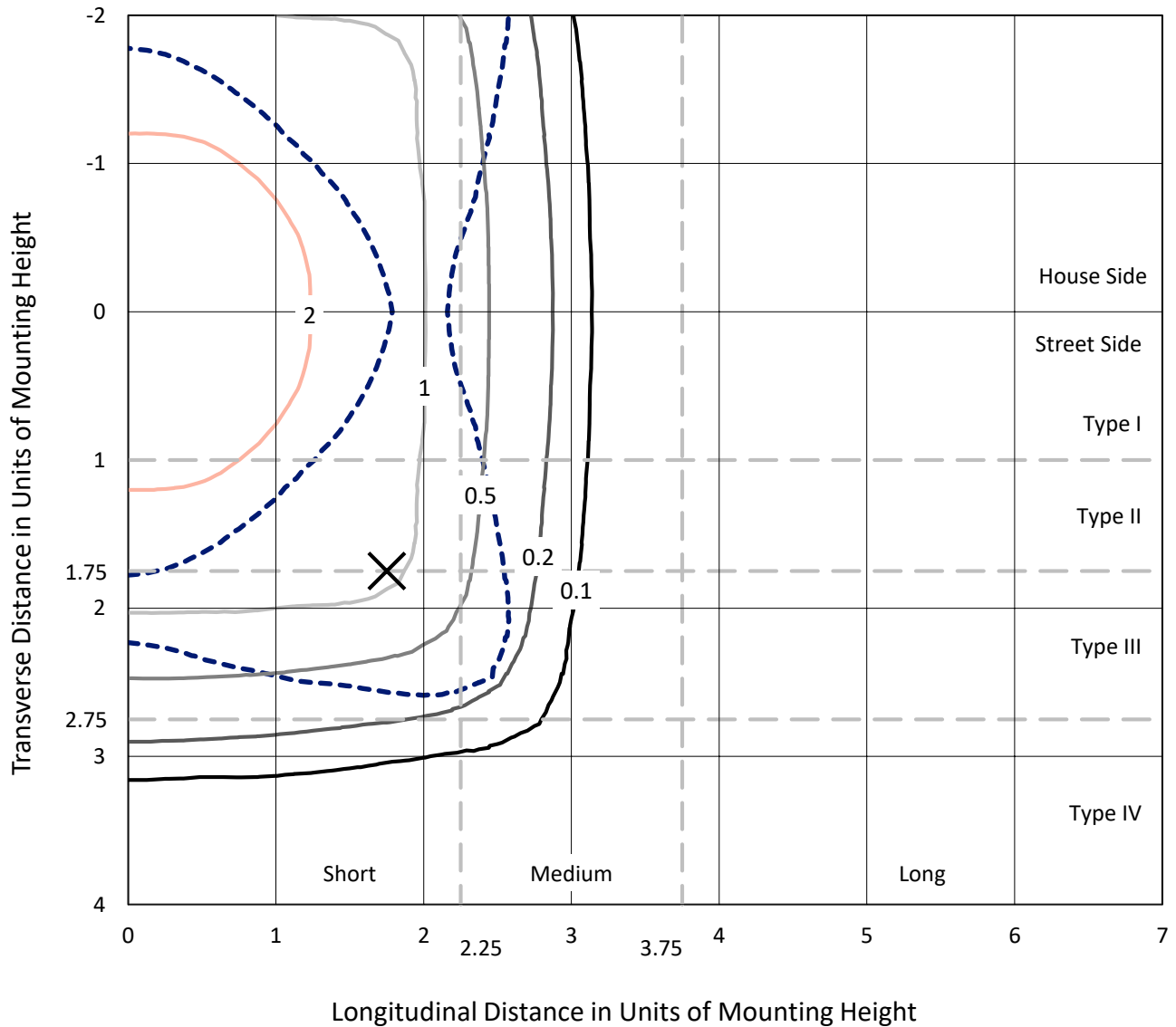
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

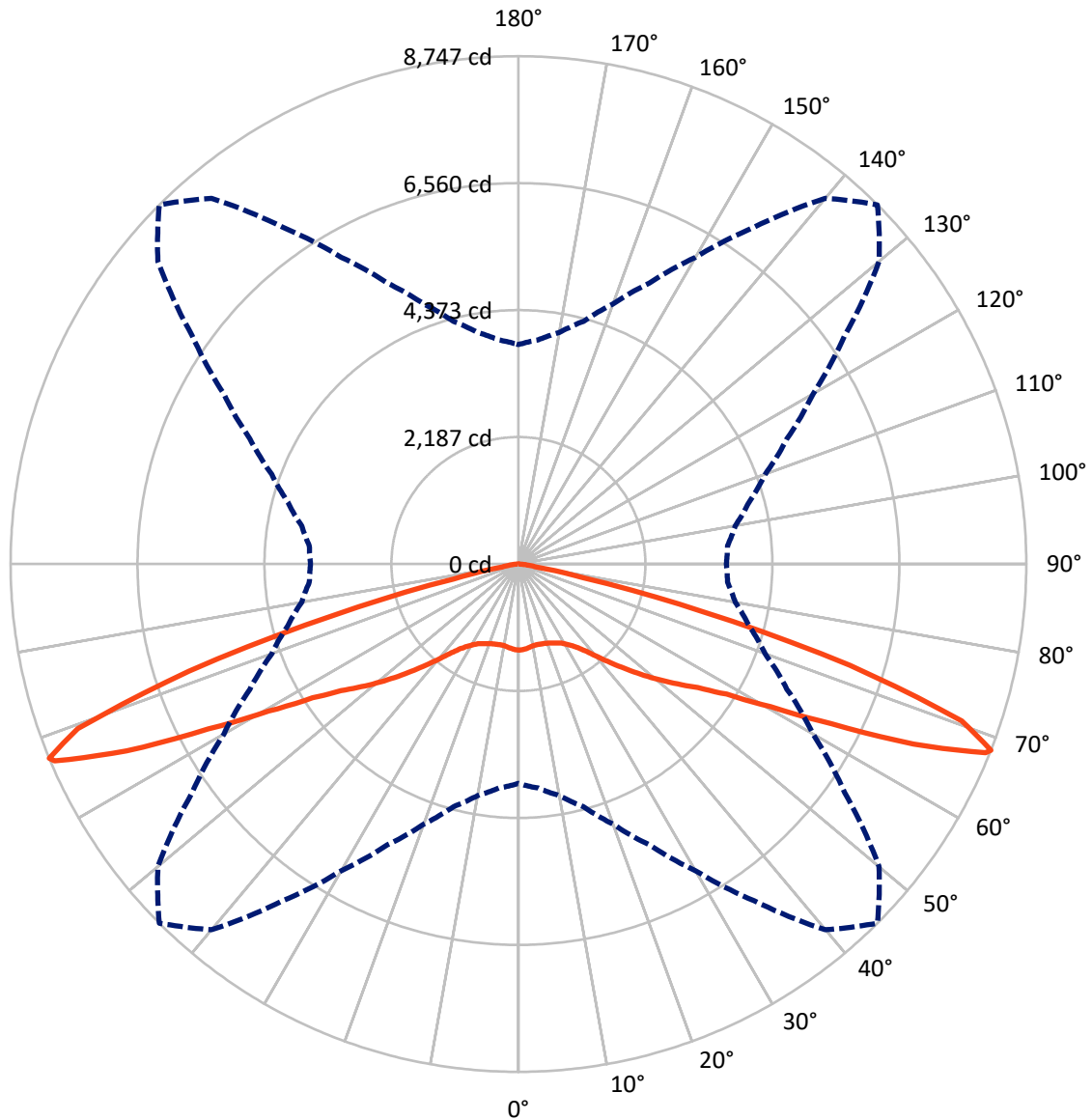
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.7 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	7436.2	0.0	7436.2
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	7436.2	0.0	7436.2
	% Fixture	50.0	0.0	50.0
Total	Lumens	14872.4	0.0	14872.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.8	0.9
10°-20°	402.6	2.7
20°-30°	684.5	4.6
30°-40°	1120.1	7.5
40°-50°	2001.8	13.5
50°-60°	3380.7	22.7
60°-70°	5242.3	35.2
70°-80°	1802.4	12.1
80°-90°	99.1	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°	14872.4	100.0
0°-180°	14872.4	100.0



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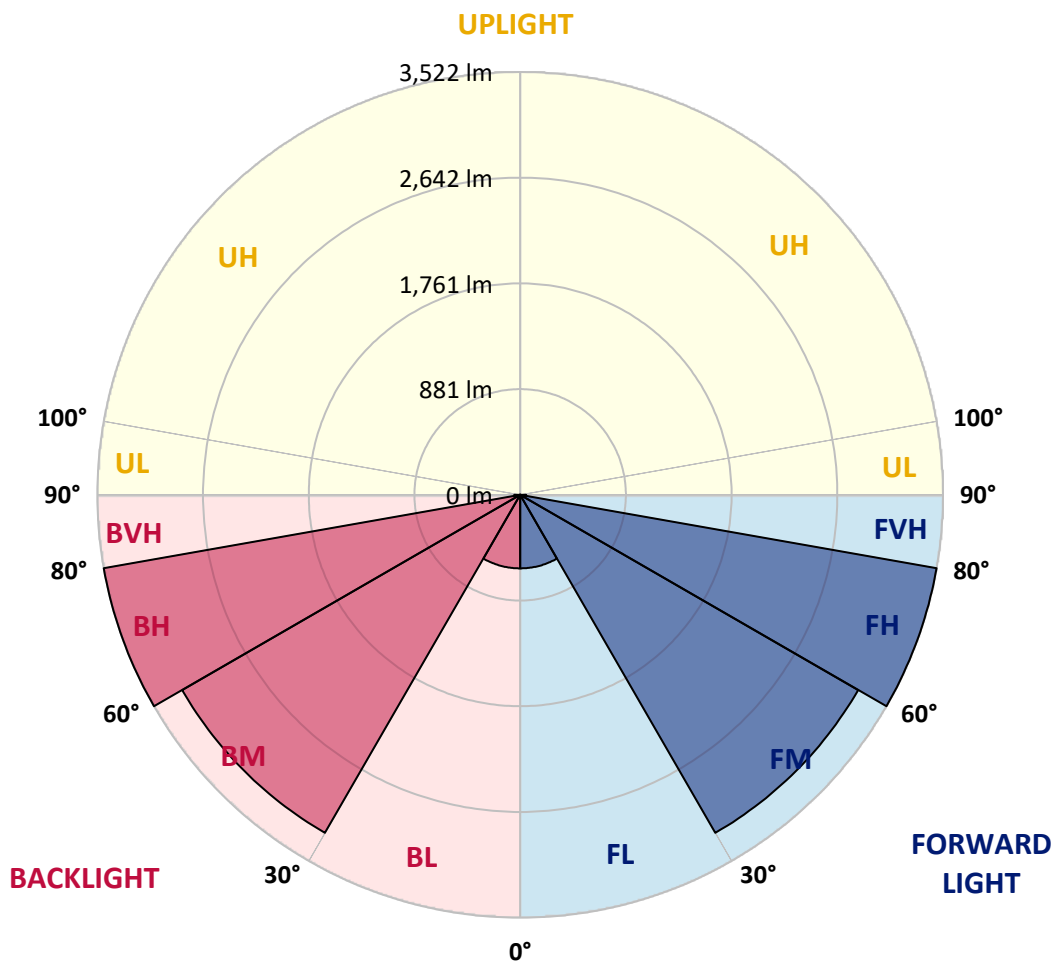
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	613.0	4.1			
FM	(30°-60°)	3251.3	21.9			
FH	(60°-80°)	3522.4	23.7			G2/5000
FVH	(80°-90°)	49.5	0.3			G1/100
BL	(0°-30°)	613.0	4.1	B2/1000		
BM	(30°-60°)	3251.3	21.9	B3/5000		
BH	(60°-80°)	3522.4	23.7	B4/5000		G2/5000
BVH	(80°-90°)	49.5	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°	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6
2.5°	1490.0	1490.0	1491.7	1490.8	1488.1	1485.3	1482.7	1479.9	1478.2	1476.3	1474.5
5°	1474.5	1474.5	1477.3	1475.3	1473.5	1470.9	1469.0	1466.3	1464.4	1462.6	1463.5
7.5°	1454.4	1456.2	1458.0	1457.1	1453.5	1452.6	1449.9	1449.0	1447.1	1444.5	1445.4
10°	1437.1	1438.0	1439.9	1438.9	1438.0	1435.3	1434.4	1433.4	1432.5	1428.9	1428.0
12.5°	1419.9	1421.7	1423.5	1424.4	1423.5	1424.4	1425.3	1426.1	1425.3	1423.5	1423.5
15°	1406.1	1408.0	1410.7	1413.5	1414.3	1419.9	1423.5	1427.0	1429.8	1430.7	1428.0
17.5°	1398.9	1401.5	1405.3	1410.7	1415.3	1421.7	1428.0	1433.4	1438.0	1438.9	1436.2
20°	1397.9	1400.6	1406.1	1412.6	1420.7	1428.9	1438.9	1447.1	1451.8	1454.4	1451.8
22.5°	1404.3	1408.0	1415.3	1423.5	1433.4	1444.5	1457.1	1466.3	1475.3	1479.0	1476.3
25°	1422.6	1426.1	1434.4	1444.5	1455.3	1469.0	1481.8	1493.6	1502.7	1507.3	1503.7
27.5°	1460.9	1461.7	1470.9	1481.8	1494.5	1506.4	1522.7	1528.1	1535.5	1540.1	1535.5
30°	1514.5	1516.3	1524.6	1541.9	1553.7	1569.2	1578.3	1583.7	1591.9	1596.5	1591.0
32.5°	1596.5	1598.4	1605.6	1622.0	1632.8	1644.7	1655.7	1659.3	1667.6	1673.1	1666.6
35°	1712.2	1715.9	1722.2	1733.1	1742.3	1751.3	1759.5	1756.7	1762.2	1769.5	1763.2
37.5°	1870.6	1869.7	1871.4	1879.8	1888.9	1894.3	1907.0	1900.6	1906.2	1912.5	1908.9
40°	2055.5	2055.5	2054.7	2069.2	2072.7	2078.3	2092.0	2083.7	2091.1	2098.4	2092.0
42.5°	2265.9	2269.5	2274.1	2285.8	2295.9	2297.8	2304.2	2300.5	2309.6	2316.0	2309.6
45°	2508.1	2513.5	2519.0	2546.3	2550.9	2554.6	2559.1	2547.2	2557.4	2562.8	2561.0
47.5°	2759.6	2769.6	2781.3	2809.5	2827.8	2835.9	2839.6	2826.0	2826.8	2835.1	2835.9
50°	3043.6	3054.5	3066.5	3098.3	3115.6	3130.1	3134.6	3119.3	3121.0	3127.4	3129.2
52.5°	3305.9	3318.7	3344.2	3387.0	3411.6	3437.1	3438.9	3419.8	3427.9	3432.6	3428.9
55°	3552.7	3569.1	3602.8	3660.1	3704.8	3754.9	3777.6	3756.7	3756.7	3753.1	3751.2
57.5°	3840.6	3858.7	3893.3	3959.8	4021.7	4093.7	4155.6	4176.6	4214.8	4227.6	4207.5
60°	4274.0	4293.1	4328.7	4416.1	4494.4	4599.1	4701.1	4784.1	4918.8	4991.6	4926.0
62.5°	4670.2	4699.4	4783.1	4936.0	5105.4	5299.6	5524.4	5684.7	5929.7	6051.7	5887.0
65°	4580.0	4639.1	4803.1	5043.5	5393.3	5814.0	6272.1	6712.0	7218.4	7477.9	7142.9
67.5°	4000.8	4050.8	4227.6	4507.2	4943.5	5523.5	6235.8	7146.5	8191.0	8677.4	8084.4
68°	3779.4	3873.3	4049.1	4326.9	4766.8	5336.8	6097.2	7080.9	8221.1	8746.5	8106.3
70°	2897.9	2931.6	3100.1	3349.6	3824.2	4383.3	5151.1	6272.1	7560.9	8101.8	7443.4
72.5°	1377.0	1397.0	1506.4	1752.2	2053.6	2509.1	3186.6	4244.0	5405.1	5968.0	5311.3
75°	504.6	509.1	534.6	592.9	705.8	877.0	1202.1	1859.8	2753.1	3283.1	2764.1
77.5°	272.2	273.3	283.2	297.8	317.8	340.5	389.8	522.8	843.2	1147.6	890.7
80°	171.1	170.3	180.3	192.1	205.8	216.8	221.3	236.9	266.8	312.4	286.9
82.5°	87.5	95.6	118.3	131.2	151.2	154.8	150.2	149.4	158.6	171.1	176.6
85°	48.2	42.8	62.8	83.8	91.1	93.9	94.7	89.2	87.5	85.6	90.2
87.5°	24.7	22.7	27.3	42.0	44.6	36.4	37.3	31.9	21.9	21.9	22.7
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°	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6
2.5°	1472.6	1473.5	1471.8	1471.8	1471.8	1472.6	1471.8	1470.9
5°	1460.9	1462.6	1462.6	1463.5	1464.4	1464.4	1464.4	1464.4
7.5°	1443.4	1444.5	1446.2	1446.2	1446.2	1446.2	1446.2	1446.2
10°	1427.0	1425.3	1424.4	1422.6	1422.6	1419.9	1420.7	1421.7
12.5°	1419.0	1415.3	1413.5	1410.7	1408.9	1406.1	1406.1	1407.0
15°	1422.6	1417.0	1411.6	1409.8	1408.0	1406.1	1404.3	1405.3
17.5°	1429.8	1423.5	1417.0	1413.5	1409.8	1407.0	1406.1	1407.0
20°	1445.4	1436.2	1426.1	1419.9	1412.6	1410.7	1408.0	1410.7
22.5°	1466.3	1455.3	1442.6	1430.7	1422.6	1419.0	1415.3	1418.0
25°	1491.7	1479.9	1467.2	1453.5	1444.5	1441.7	1437.1	1437.1
27.5°	1527.3	1517.2	1506.4	1493.6	1484.4	1481.8	1474.5	1474.5
30°	1583.7	1573.7	1563.7	1552.8	1543.6	1541.0	1531.8	1531.8
32.5°	1658.5	1647.5	1641.2	1632.0	1624.8	1620.2	1609.3	1608.3
35°	1758.6	1748.6	1747.7	1741.4	1734.0	1734.9	1723.9	1722.2
37.5°	1902.5	1894.3	1897.0	1891.7	1885.3	1890.7	1884.3	1884.3
40°	2086.5	2083.7	2086.5	2082.8	2083.7	2084.6	2079.1	2081.1
42.5°	2308.6	2301.4	2317.7	2316.0	2313.2	2320.5	2307.7	2298.7
45°	2564.7	2561.8	2578.2	2581.0	2575.5	2580.1	2557.4	2556.3
47.5°	2842.3	2842.3	2856.9	2855.2	2849.7	2850.5	2823.3	2805.9
50°	3132.0	3130.1	3144.7	3141.1	3133.7	3132.8	3104.6	3087.4
52.5°	3433.4	3433.4	3454.3	3444.3	3427.0	3418.9	3384.3	3361.5
55°	3766.8	3762.2	3768.6	3735.8	3702.1	3677.5	3634.7	3617.4
57.5°	4188.3	4135.5	4090.1	4048.1	4000.8	3971.6	3921.6	3903.3
60°	4786.8	4645.6	4584.6	4500.8	4422.4	4383.3	4316.9	4281.3
62.5°	5615.6	5381.4	5215.6	5030.8	4852.4	4726.6	4625.6	4580.9
65°	6573.5	6063.6	5642.0	5245.7	4909.6	4642.9	4494.4	4448.0
67.5°	6937.9	6001.7	5273.9	4705.7	4297.8	3979.9	3802.3	3764.9
68°	6860.4	5859.6	5103.7	4521.7	4111.9	3791.3	3614.7	3581.0
70°	6051.7	4943.5	4145.6	3566.5	3184.0	2878.8	2754.1	2700.2
72.5°	4125.6	3174.8	2435.2	1948.1	1662.0	1469.0	1354.3	1315.1
75°	1898.8	1283.1	857.1	640.2	543.7	497.2	461.6	452.7
77.5°	553.7	402.5	346.0	320.5	301.4	285.0	273.3	272.2
80°	263.3	246.9	239.5	223.0	205.8	190.4	179.4	181.3
82.5°	176.6	172.1	172.1	155.8	128.4	110.2	91.1	81.9
85°	93.9	97.5	102.9	97.5	84.7	62.8	41.1	44.6
87.5°	31.9	36.4	38.3	37.3	33.6	25.5	19.1	19.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)