

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: P196430

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196430
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)
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-5NQ-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12110.3 lumens
Efficiency: N/A
Efficacy: 107.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B3 - U0 - G2

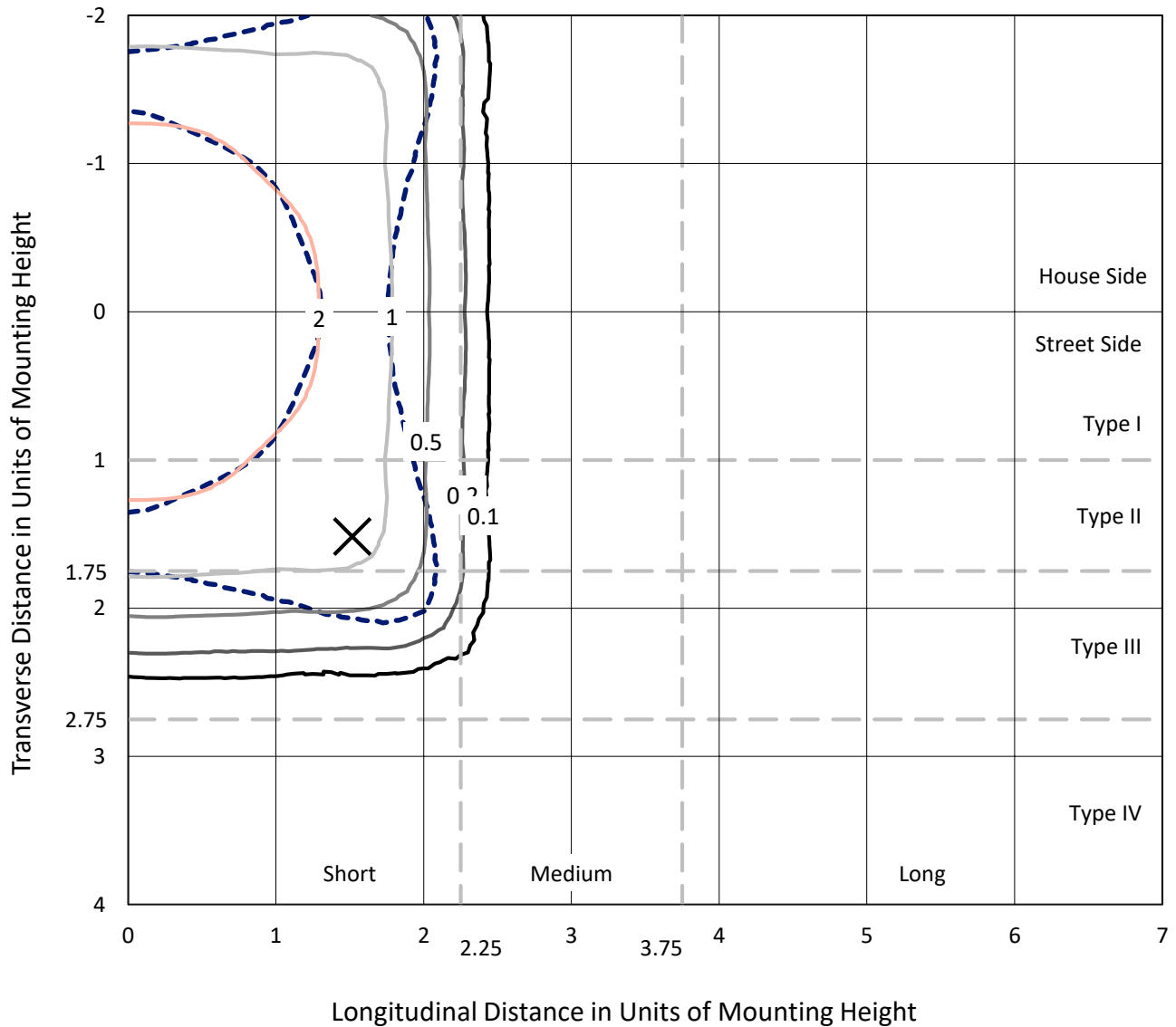
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

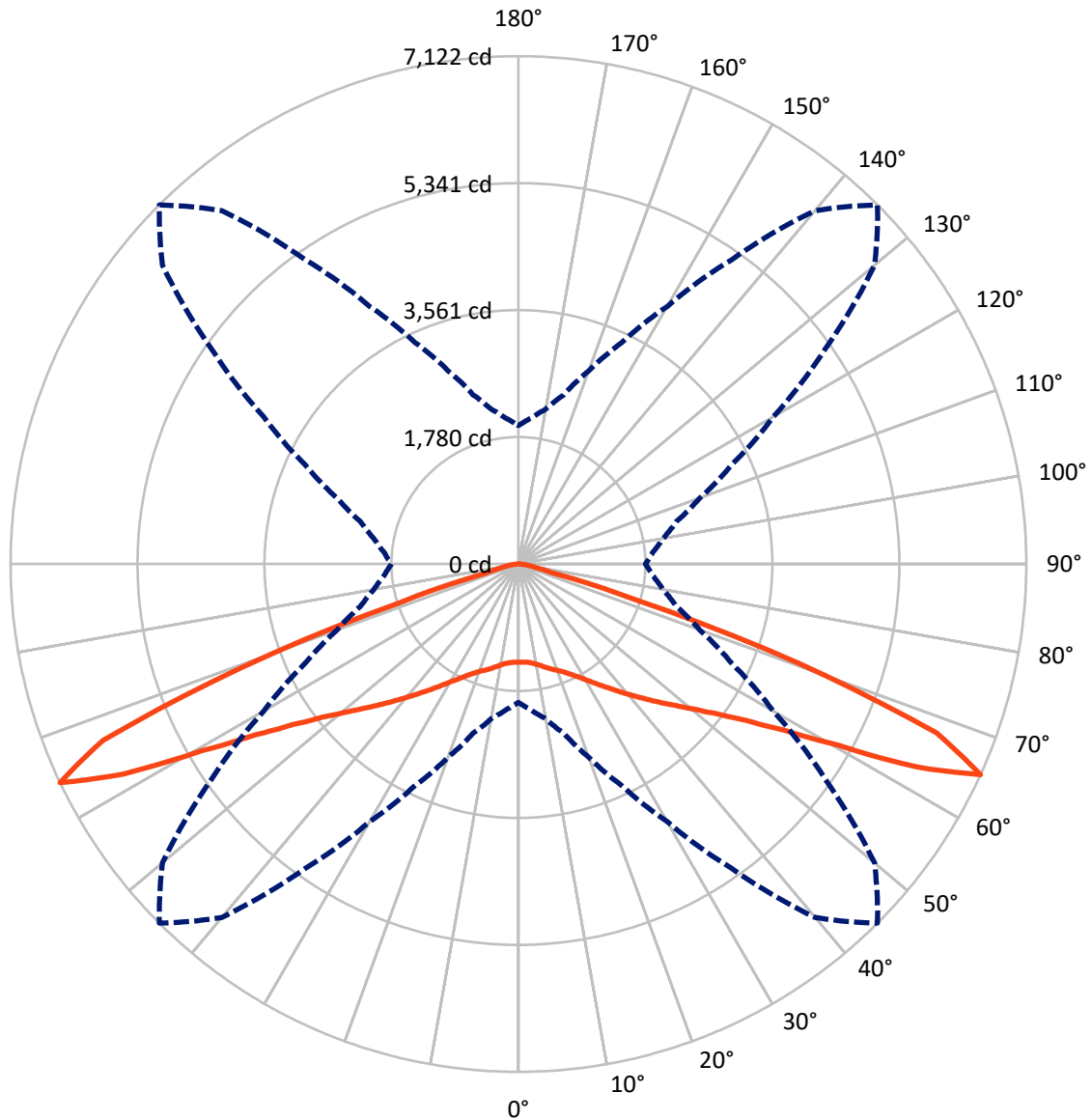
× Max cd
 - - - 1/2 Max cd



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 65-Deg Vertical

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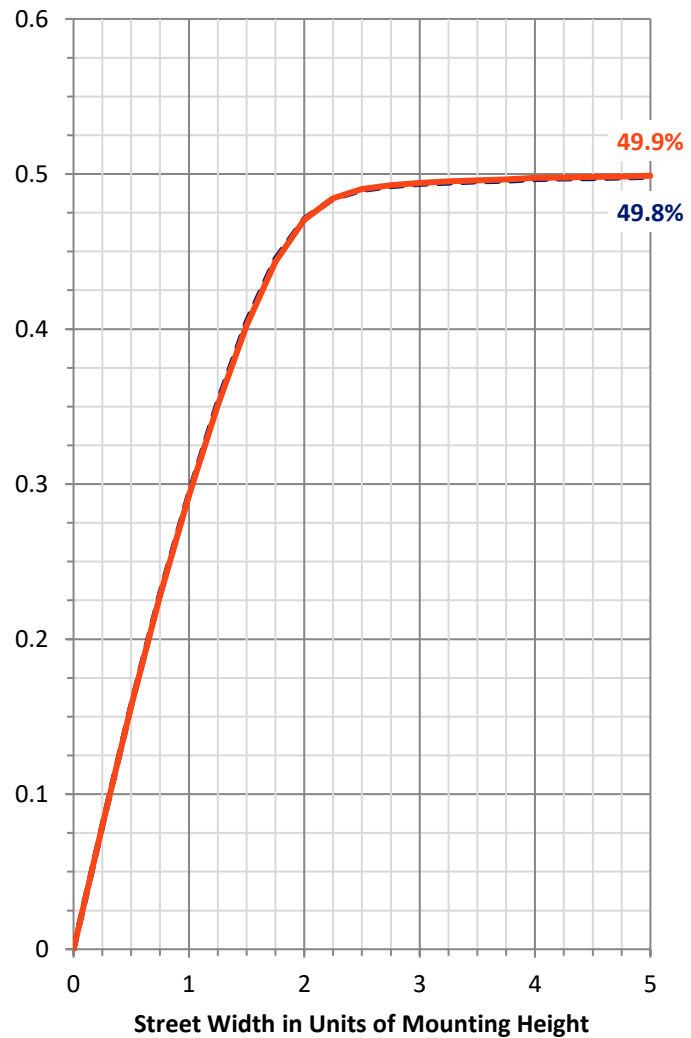
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6055.1	0.0	6055.1
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6055.1	0.0	6055.1
	% Fixture	50.0	0.0	50.0
Total	Lumens	12110.3	0.0	12110.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.1	1.1
10°-20°	429.9	3.6
20°-30°	802.0	6.6
30°-40°	1352.4	11.2
40°-50°	2196.6	18.1
50°-60°	3441.8	28.4
60°-70°	3248.9	26.8
70°-80°	437.8	3.6
80°-90°	66.7	0.6
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°	12110.3	100.0
0°-180°	12110.3	100.0



--- HS — SS

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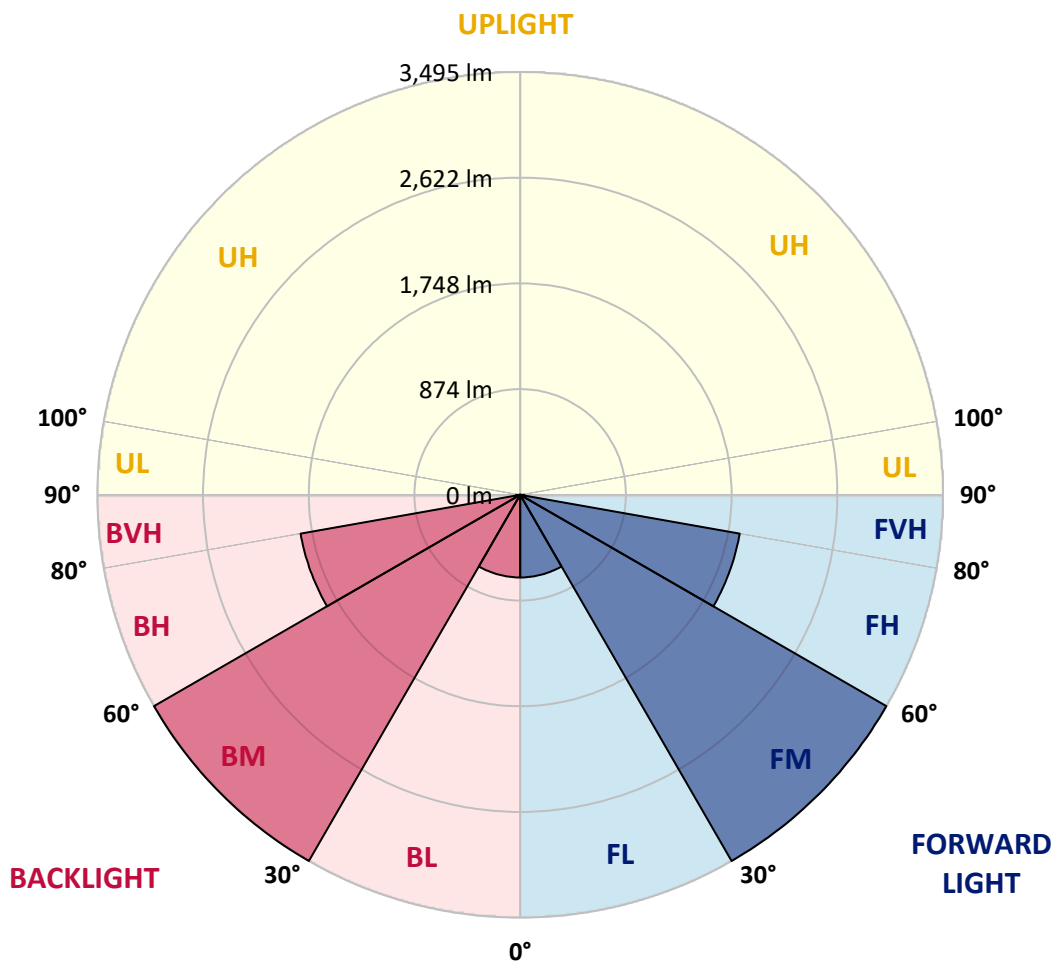
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	683.1	5.6			
FM	(30°-60°)	3495.4	28.9			
FH	(60°-80°)	1843.4	15.2			G2/5000
FVH	(80°-90°)	33.3	0.3			G1/100
BL	(0°-30°)	683.1	5.6	B2/1000		
BM	(30°-60°)	3495.4	28.9	B3/5000		
BH	(60°-80°)	1843.4	15.2	B3/2500		G2/5000
BVH	(80°-90°)	33.3	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1377.5	1377.5	1377.5	1377.5	1377.5	1377.5	1377.5	1377.5	1377.5	1377.5	1377.5
2.5°	1388.8	1388.8	1391.1	1390.4	1387.4	1385.1	1382.7	1379.8	1378.3	1376.7	1376.0
5°	1396.5	1396.5	1398.6	1397.9	1395.7	1392.6	1391.1	1388.8	1386.6	1385.1	1385.9
7.5°	1415.2	1416.0	1416.8	1416.0	1413.7	1411.5	1408.5	1407.7	1404.6	1402.5	1404.0
10°	1444.0	1444.0	1444.6	1445.4	1444.0	1438.6	1438.6	1437.1	1434.1	1431.1	1431.9
12.5°	1475.6	1475.6	1476.3	1476.3	1476.3	1473.4	1474.1	1473.4	1469.5	1468.0	1469.5
15°	1506.5	1507.3	1507.3	1508.8	1508.8	1509.5	1512.5	1512.5	1511.0	1510.3	1510.3
17.5°	1542.7	1544.3	1545.0	1547.2	1547.9	1549.6	1552.6	1553.3	1554.1	1551.8	1552.6
20°	1591.1	1591.8	1594.1	1594.7	1597.8	1597.8	1599.3	1598.6	1597.1	1594.1	1594.1
22.5°	1645.3	1646.9	1651.4	1651.4	1655.2	1652.9	1653.6	1651.4	1647.6	1646.1	1644.6
25°	1716.3	1718.5	1722.3	1720.9	1722.3	1718.5	1718.5	1718.5	1716.3	1714.0	1713.1
27.5°	1806.0	1802.2	1806.0	1803.0	1802.2	1799.3	1800.0	1798.5	1796.2	1795.4	1792.4
30°	1899.6	1895.1	1897.3	1898.1	1896.5	1895.7	1892.8	1890.5	1886.8	1887.5	1885.3
32.5°	2006.6	2002.1	2004.5	2005.2	2003.7	2005.2	2004.5	1999.1	1994.6	1997.7	1997.7
35°	2134.2	2131.2	2137.2	2139.6	2134.9	2132.6	2129.7	2123.7	2116.8	2121.4	2122.2
37.5°	2287.4	2283.5	2288.1	2294.1	2285.8	2281.4	2269.2	2260.1	2255.6	2258.0	2260.9
40°	2446.6	2447.3	2460.1	2461.6	2452.6	2447.3	2435.2	2421.6	2408.8	2408.8	2412.6
42.5°	2614.0	2616.2	2631.3	2636.7	2633.5	2623.8	2607.3	2590.6	2574.0	2577.0	2581.6
45°	2803.4	2800.4	2816.1	2828.9	2826.7	2823.7	2807.9	2777.7	2762.6	2761.8	2769.4
47.5°	3002.6	3008.6	3025.2	3047.0	3046.2	3038.7	3018.4	2990.4	2962.6	2964.8	2973.8
50°	3234.8	3243.2	3271.1	3293.0	3296.0	3293.7	3269.6	3237.2	3197.9	3200.2	3212.2
52.5°	3443.1	3455.1	3487.5	3532.9	3560.8	3573.6	3557.7	3527.6	3487.5	3489.8	3502.7
55°	3631.7	3650.6	3698.9	3760.7	3816.5	3868.6	3892.0	3891.2	3861.8	3868.6	3885.2
57.5°	3750.1	3776.5	3849.7	3949.2	4060.2	4165.1	4255.5	4340.8	4359.7	4395.2	4395.2
60°	3591.0	3652.7	3750.1	3920.7	4138.6	4373.9	4629.0	4877.3	5037.1	5163.1	5095.2
62.5°	2998.7	3090.1	3226.5	3451.4	3790.9	4211.1	4723.3	5300.3	5902.4	6270.6	6000.5
65°	1940.3	2054.9	2203.6	2456.3	2884.1	3425.0	4171.1	5208.4	6468.2	7121.5	6518.0
67.5°	768.7	846.4	937.0	1116.5	1487.7	2018.8	2856.1	4135.6	5711.5	6327.9	5651.2
70°	367.4	380.2	397.6	436.1	528.9	713.7	1147.4	2037.5	3502.7	4152.2	3418.9
72.5°	265.5	267.8	276.1	288.9	316.1	353.8	430.1	623.1	1207.8	1756.3	1209.3
75°	201.5	204.5	209.0	215.8	230.1	248.2	276.9	331.9	413.4	476.8	412.7
77.5°	153.2	156.1	159.9	166.7	174.3	187.1	197.6	219.5	254.2	267.8	266.3
80°	111.7	116.9	122.9	129.0	134.3	140.3	141.1	151.7	171.2	184.1	180.3
82.5°	70.9	75.4	91.2	98.2	98.9	100.3	99.5	100.3	110.9	119.9	116.9
85°	45.3	48.3	56.6	64.1	62.6	65.7	65.7	64.1	59.5	51.4	61.0
87.5°	22.6	23.4	27.2	34.0	32.4	28.6	27.9	27.9	20.3	17.4	18.9
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°	1377.5	1377.5	1377.5	1377.5	1377.5	1377.5	1377.5	1377.5
2.5°	1373.7	1375.2	1373.0	1373.0	1372.3	1373.7	1371.5	1371.5
5°	1384.4	1386.6	1385.9	1385.9	1387.4	1388.8	1388.1	1387.4
7.5°	1403.2	1404.6	1406.1	1406.9	1408.5	1407.7	1409.2	1408.5
10°	1431.9	1430.3	1432.6	1430.3	1431.1	1429.5	1430.3	1430.3
12.5°	1468.0	1465.8	1464.3	1462.8	1462.8	1459.8	1459.8	1460.5
15°	1509.5	1505.8	1502.8	1501.2	1499.7	1499.7	1497.5	1499.0
17.5°	1550.3	1546.6	1541.2	1541.2	1539.0	1537.5	1535.9	1539.7
20°	1593.3	1589.5	1586.6	1585.8	1581.2	1579.7	1580.4	1585.1
22.5°	1643.0	1640.8	1640.8	1639.3	1636.2	1634.1	1634.1	1639.3
25°	1710.2	1705.6	1706.4	1707.1	1705.6	1705.6	1704.2	1707.9
27.5°	1792.4	1788.7	1791.0	1792.4	1791.0	1793.2	1791.0	1793.9
30°	1889.0	1886.8	1889.0	1891.3	1887.5	1887.5	1886.1	1888.2
32.5°	2004.5	2001.4	2002.9	2002.9	1997.7	1993.1	1987.1	1991.6
35°	2131.2	2127.4	2130.4	2132.6	2126.6	2122.2	2113.1	2116.8
37.5°	2270.7	2272.3	2276.0	2285.8	2284.3	2276.8	2270.0	2273.0
40°	2426.8	2434.4	2451.0	2457.8	2456.3	2448.8	2439.8	2441.2
42.5°	2603.4	2613.3	2630.6	2641.9	2636.7	2626.0	2614.8	2619.3
45°	2795.8	2810.9	2833.5	2844.8	2838.0	2826.7	2810.9	2819.2
47.5°	2999.5	3029.6	3059.8	3074.9	3072.7	3056.8	3036.5	3038.7
50°	3243.2	3283.1	3321.6	3336.7	3325.5	3301.3	3272.6	3271.9
52.5°	3546.4	3589.3	3621.1	3617.3	3589.3	3551.7	3519.2	3517.7
55°	3925.1	3939.5	3935.0	3902.5	3853.5	3794.6	3753.2	3746.4
57.5°	4383.1	4334.8	4263.9	4165.8	4055.6	3944.0	3868.6	3840.7
60°	4942.8	4724.8	4471.3	4204.3	3960.5	3778.0	3662.6	3592.5
62.5°	5405.3	4773.9	4207.2	3743.3	3363.9	3138.3	2980.6	2883.4
65°	5246.8	4124.3	3303.6	2705.3	2291.0	2058.0	1891.3	1780.4
67.5°	4053.4	2755.8	1917.7	1329.2	1007.9	853.2	745.3	675.2
70°	2043.7	1056.9	640.5	451.9	386.2	359.1	341.0	330.4
72.5°	599.8	400.6	332.7	294.2	270.9	254.2	243.6	238.4
75°	331.9	270.9	239.2	217.3	202.1	190.8	184.1	179.5
77.5°	228.6	196.8	181.1	166.7	154.6	146.4	141.1	136.6
80°	159.9	144.1	137.3	129.8	120.7	113.9	106.4	103.4
82.5°	106.4	99.5	98.2	92.0	86.8	79.2	65.7	61.0
85°	62.6	61.8	61.8	59.5	55.8	49.0	39.3	39.3
87.5°	21.9	22.6	23.4	24.9	24.1	20.3	16.6	15.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)