

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: P194996

Luminaire Tested: **NAV-AF-02-D-UNV-5NQ-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P194996
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-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13737 lumens
Efficiency: N/A
Efficacy: 106.5 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): 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

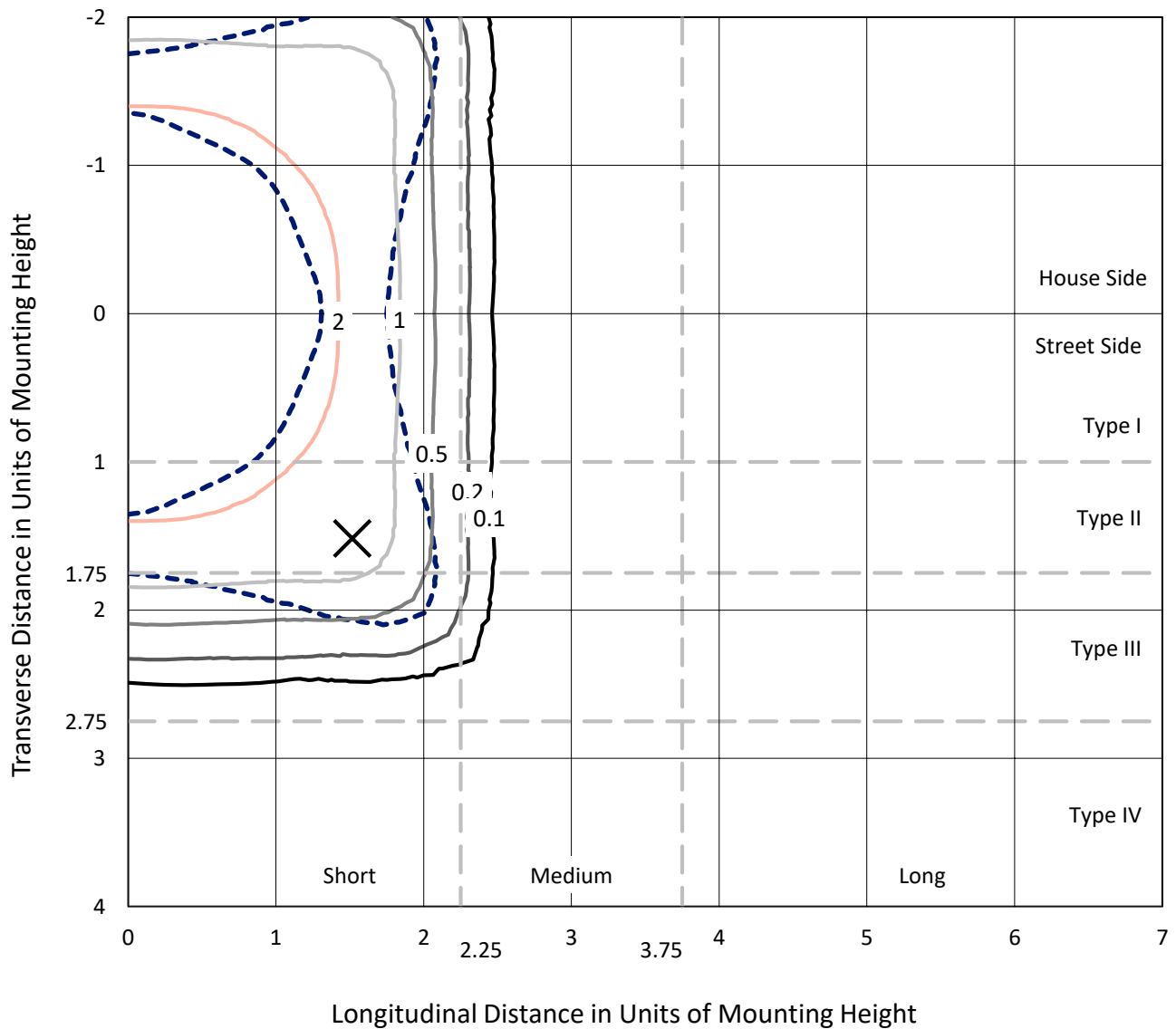


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Iso-Footcandle Lines of Horizontal Illumination

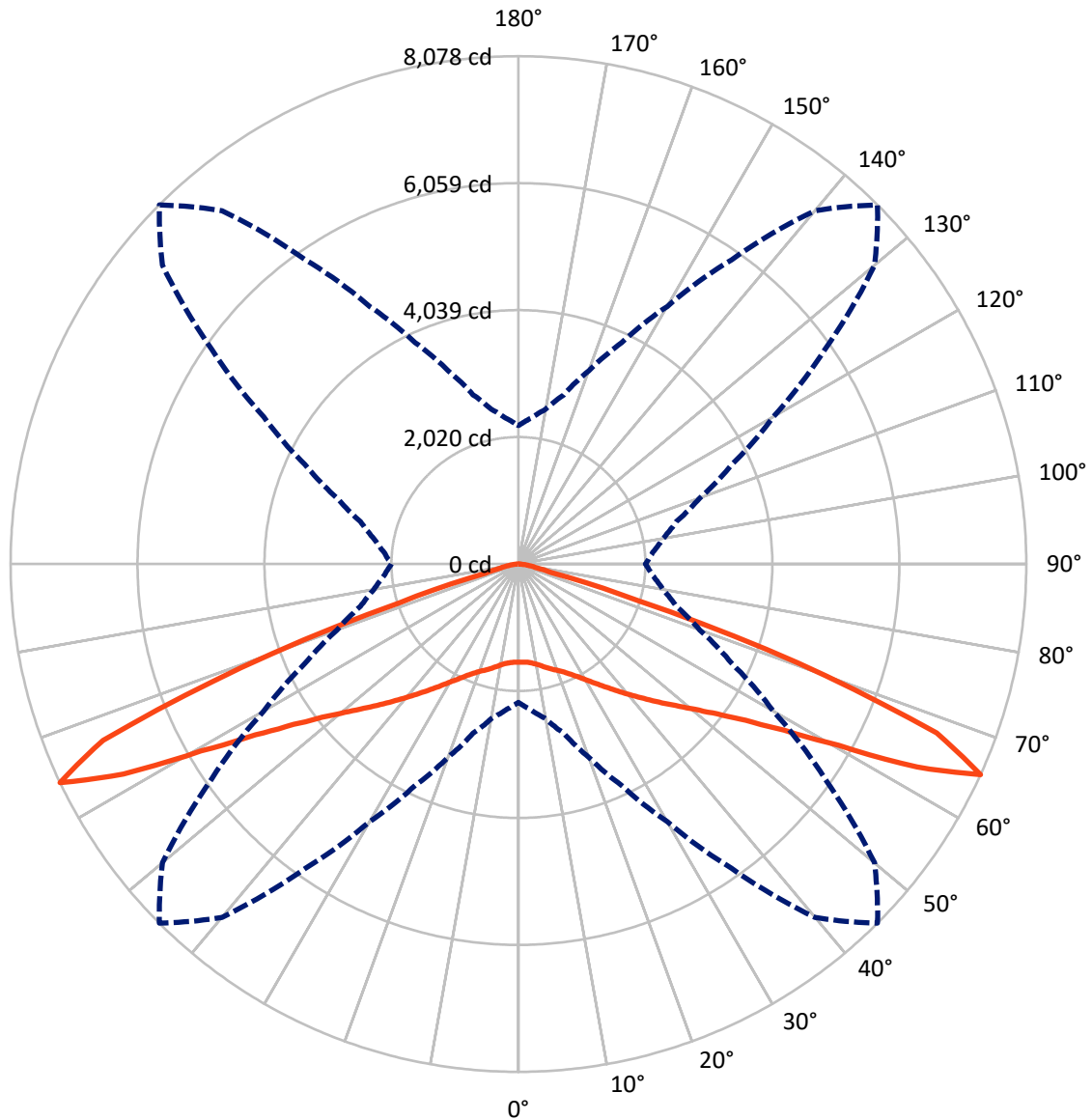
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.9 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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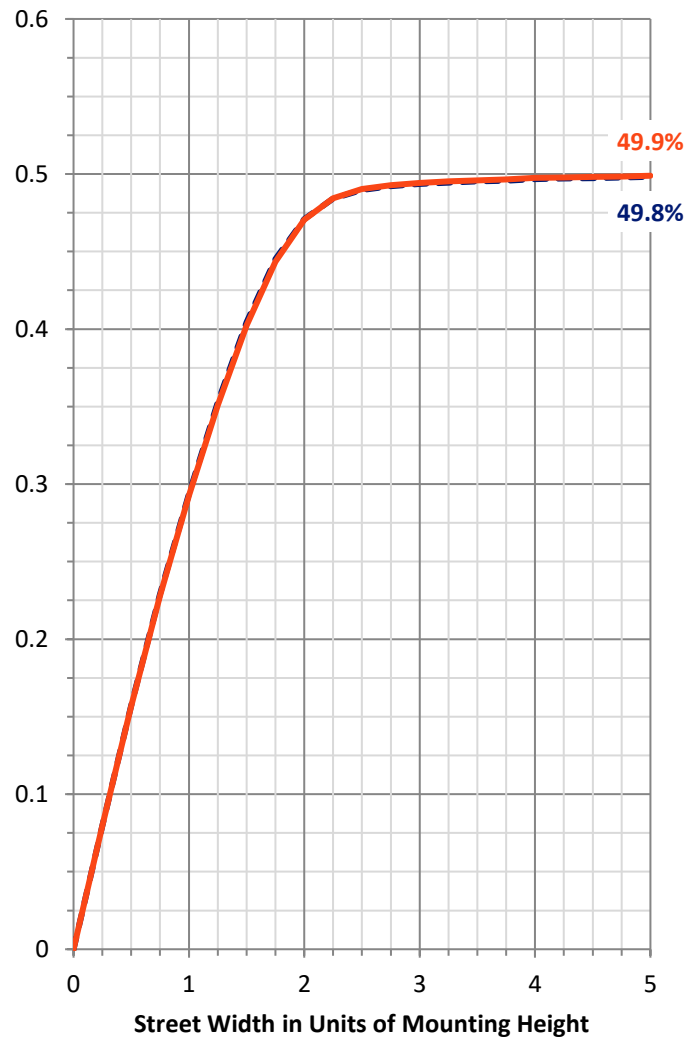
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6868.5	0.0	6868.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6868.5	0.0	6868.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	13737.0	0.0	13737.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.2	1.1
10°-20°	487.7	3.6
20°-30°	909.8	6.6
30°-40°	1534.0	11.2
40°-50°	2491.7	18.1
50°-60°	3904.1	28.4
60°-70°	3685.3	26.8
70°-80°	496.7	3.6
80°-90°	75.6	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°	13737.0	100.0
0°-180°	13737.0	100.0



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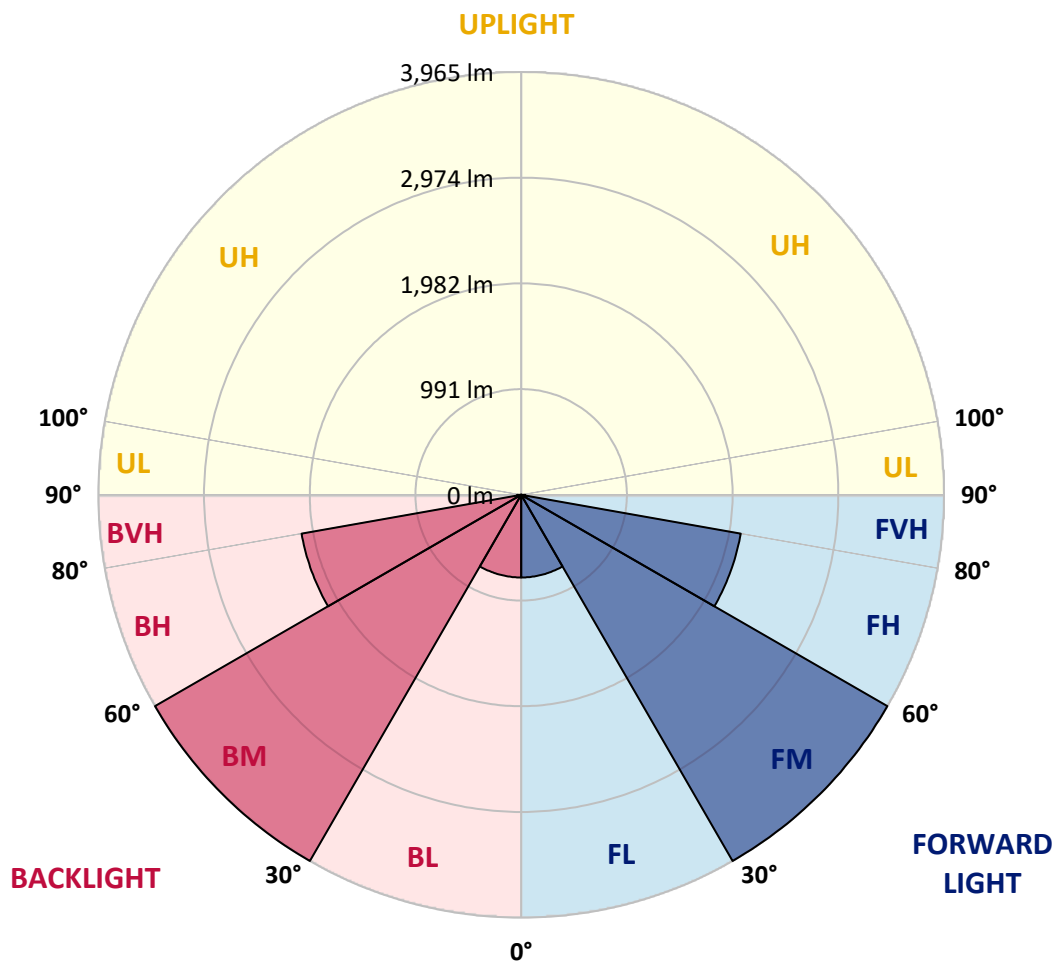
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	774.8	5.6			
FM (30°-60°)	3964.9	28.9			
FH (60°-80°)	2091.0	15.2			G2/5000
FVH (80°-90°)	37.8	0.3			G1/100
BL (0°-30°)	774.8	5.6	B2/1000		
BM (30°-60°)	3964.9	28.9	B3/5000		
BH (60°-80°)	2091.0	15.2	B3/2500		G2/5000
BVH (80°-90°)	37.8	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	1562.6	1562.6	1562.6	1562.6	1562.6	1562.6	1562.6	1562.6	1562.6	1562.6	1562.6
2.5°	1575.4	1575.4	1578.0	1577.1	1573.7	1571.1	1568.6	1565.1	1563.4	1561.7	1560.9
5°	1584.0	1584.0	1586.5	1585.7	1583.1	1579.7	1578.0	1575.4	1572.8	1571.1	1572.0
7.5°	1605.4	1606.2	1607.1	1606.2	1603.6	1601.1	1597.7	1596.8	1593.4	1590.8	1592.5
10°	1637.9	1637.9	1638.7	1639.6	1637.9	1631.9	1631.9	1630.2	1626.7	1623.3	1624.2
12.5°	1673.8	1673.8	1674.7	1674.7	1674.7	1671.2	1672.1	1671.2	1667.0	1665.3	1667.0
15°	1708.9	1709.8	1709.8	1711.5	1711.5	1712.3	1715.7	1715.7	1714.0	1713.2	1713.2
17.5°	1750.0	1751.7	1752.5	1755.1	1756.0	1757.7	1761.1	1762.0	1762.8	1760.2	1761.1
20°	1804.7	1805.6	1808.2	1809.0	1812.4	1812.4	1814.2	1813.3	1811.6	1808.2	1808.2
22.5°	1866.4	1868.1	1873.2	1873.2	1877.5	1874.9	1875.8	1873.2	1868.9	1867.2	1865.5
25°	1946.8	1949.4	1953.6	1951.9	1953.6	1949.4	1949.4	1949.4	1946.8	1944.2	1943.4
27.5°	2048.6	2044.3	2048.6	2045.2	2044.3	2040.9	2041.8	2040.1	2037.5	2036.6	2033.2
30°	2154.7	2149.6	2152.2	2153.0	2151.3	2150.5	2147.0	2144.5	2140.2	2141.0	2138.5
32.5°	2276.2	2271.1	2273.7	2274.5	2272.8	2274.5	2273.7	2267.7	2262.6	2266.0	2266.0
35°	2420.9	2417.4	2424.3	2426.9	2421.7	2419.2	2415.7	2408.9	2401.2	2406.3	2407.2
37.5°	2594.6	2590.3	2595.4	2602.3	2592.9	2587.7	2574.0	2563.8	2558.6	2561.2	2564.6
40°	2775.1	2776.0	2790.5	2792.3	2782.0	2776.0	2762.3	2746.9	2732.4	2732.4	2736.6
42.5°	2965.1	2967.7	2984.8	2990.8	2987.4	2976.2	2957.4	2938.6	2919.8	2923.2	2928.3
45°	3179.9	3176.5	3194.4	3209.0	3206.4	3203.0	3185.0	3150.8	3133.7	3132.8	3141.4
47.5°	3405.8	3412.7	3431.5	3456.3	3455.4	3446.9	3423.8	3392.1	3360.5	3363.0	3373.3
50°	3669.4	3678.8	3710.5	3735.3	3738.7	3736.1	3708.7	3671.9	3627.4	3630.0	3643.7
52.5°	3905.6	3919.3	3956.1	4007.4	4039.1	4053.6	4035.6	4001.4	3956.1	3958.6	3973.2
55°	4119.5	4140.9	4195.7	4265.8	4329.2	4388.2	4414.7	4413.9	4380.5	4388.2	4407.0
57.5°	4253.8	4283.8	4366.8	4479.8	4605.6	4724.5	4827.2	4923.9	4945.3	4985.5	4985.5
60°	4073.3	4143.5	4253.8	4447.2	4694.5	4961.5	5250.8	5532.3	5713.7	5856.6	5779.6
62.5°	3401.5	3505.1	3660.0	3915.0	4300.1	4776.7	5357.7	6012.4	6695.3	7112.8	6806.5
65°	2200.9	2331.0	2499.6	2786.3	3271.5	3885.0	4731.3	5908.0	7337.0	8078.1	7393.5
67.5°	872.0	960.1	1062.8	1266.5	1687.5	2289.9	3239.8	4691.1	6478.7	7177.9	6410.3
70°	416.7	431.3	451.0	494.6	599.9	809.5	1301.6	2311.3	3973.2	4710.0	3878.2
72.5°	301.2	303.8	313.2	327.7	358.6	401.3	487.8	706.8	1370.0	1992.1	1371.7
75°	228.5	231.9	237.0	244.7	261.0	281.5	314.1	376.5	468.9	540.8	468.1
77.5°	173.7	177.1	181.4	189.1	197.7	212.2	224.2	249.0	288.4	303.8	302.1
80°	126.6	132.6	139.5	146.3	152.3	159.2	160.0	172.0	194.3	208.8	204.5
82.5°	80.4	85.6	103.5	111.2	112.1	113.8	113.0	113.8	125.8	136.1	132.6
85°	51.3	54.8	64.2	72.7	71.0	74.4	74.4	72.7	67.6	58.2	69.3
87.5°	25.7	26.5	30.8	38.5	36.8	32.5	31.7	31.7	23.1	19.7	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°	1562.6	1562.6	1562.6	1562.6	1562.6	1562.6	1562.6	1562.6
2.5°	1558.3	1560.0	1557.4	1557.4	1556.6	1558.3	1555.7	1555.7
5°	1570.3	1572.8	1572.0	1572.0	1573.7	1575.4	1574.5	1573.7
7.5°	1591.7	1593.4	1595.1	1595.9	1597.7	1596.8	1598.5	1597.7
10°	1624.2	1622.5	1625.0	1622.5	1623.3	1621.6	1622.5	1622.5
12.5°	1665.3	1662.7	1661.0	1659.3	1659.3	1655.8	1655.8	1656.7
15°	1712.3	1708.0	1704.6	1702.9	1701.2	1701.2	1698.6	1700.3
17.5°	1758.5	1754.3	1748.3	1748.3	1745.7	1744.0	1742.3	1746.5
20°	1807.3	1803.0	1799.6	1798.7	1793.6	1791.9	1792.8	1797.9
22.5°	1863.8	1861.2	1861.2	1859.5	1856.1	1853.5	1853.5	1859.5
25°	1939.9	1934.8	1935.7	1936.5	1934.8	1934.8	1933.1	1937.4
27.5°	2033.2	2028.9	2031.5	2033.2	2031.5	2034.1	2031.5	2034.9
30°	2142.8	2140.2	2142.8	2145.3	2141.0	2141.0	2139.3	2141.9
32.5°	2273.7	2270.3	2272.0	2272.0	2266.0	2260.8	2254.0	2259.1
35°	2417.4	2413.2	2416.6	2419.2	2412.3	2407.2	2396.9	2401.2
37.5°	2575.8	2577.5	2581.7	2592.9	2591.2	2582.6	2574.9	2578.3
40°	2752.9	2761.4	2780.3	2788.0	2786.3	2777.7	2767.4	2769.2
42.5°	2953.1	2964.3	2983.9	2996.8	2990.8	2978.8	2966.0	2971.1
45°	3171.3	3188.5	3214.1	3227.0	3219.3	3206.4	3188.5	3197.9
47.5°	3402.4	3436.6	3470.9	3488.0	3485.4	3467.4	3444.3	3446.9
50°	3678.8	3724.1	3767.8	3784.9	3772.1	3744.7	3712.2	3711.3
52.5°	4022.8	4071.6	4107.5	4103.2	4071.6	4028.8	3992.0	3990.3
55°	4452.4	4468.6	4463.5	4426.7	4371.1	4304.3	4257.3	4249.6
57.5°	4971.8	4917.0	4836.6	4725.4	4600.4	4473.8	4388.2	4356.5
60°	5606.8	5359.5	5071.9	4769.0	4492.6	4285.5	4154.6	4075.0
62.5°	6131.3	5415.1	4772.4	4246.1	3815.7	3559.8	3381.0	3270.6
65°	5951.6	4678.3	3747.3	3068.7	2598.9	2334.4	2145.3	2019.5
67.5°	4597.9	3126.0	2175.3	1507.8	1143.3	967.8	845.5	765.9
70°	2318.2	1198.9	726.5	512.6	438.1	407.3	386.8	374.8
72.5°	680.3	454.4	377.4	333.7	307.2	288.4	276.4	270.4
75°	376.5	307.2	271.3	246.5	229.3	216.5	208.8	203.7
77.5°	259.3	223.3	205.4	189.1	175.4	166.0	160.0	154.9
80°	181.4	163.4	155.7	147.2	136.9	129.2	120.7	117.2
82.5°	120.7	113.0	111.2	104.4	98.4	89.9	74.4	69.3
85°	71.0	70.2	70.2	67.6	63.3	55.6	44.5	44.5
87.5°	24.8	25.7	26.5	28.2	27.4	23.1	18.8	18.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)