

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: P194990

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P194990
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 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: 12522 lumens
Efficiency: N/A
Efficacy: 110.8 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

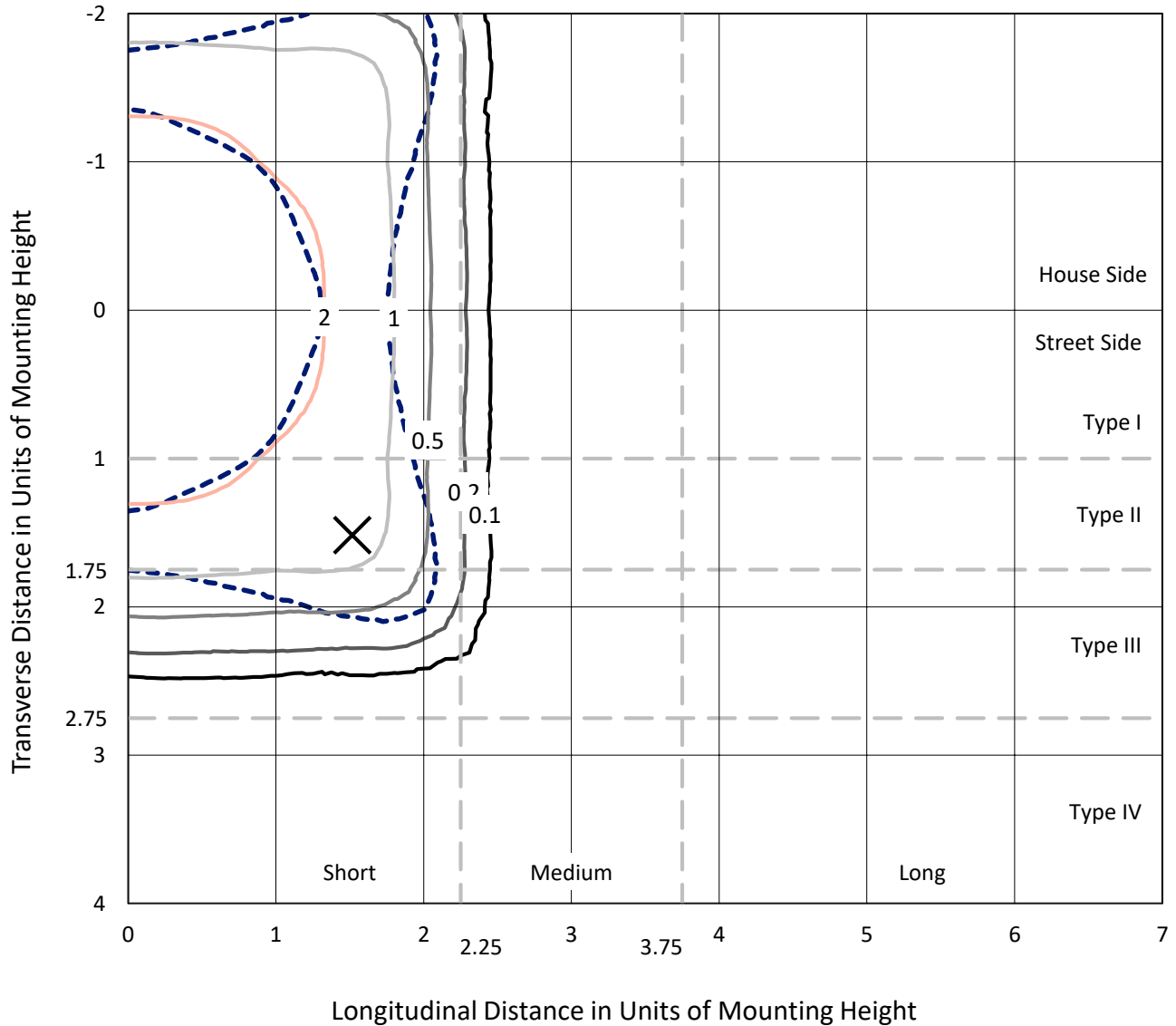
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

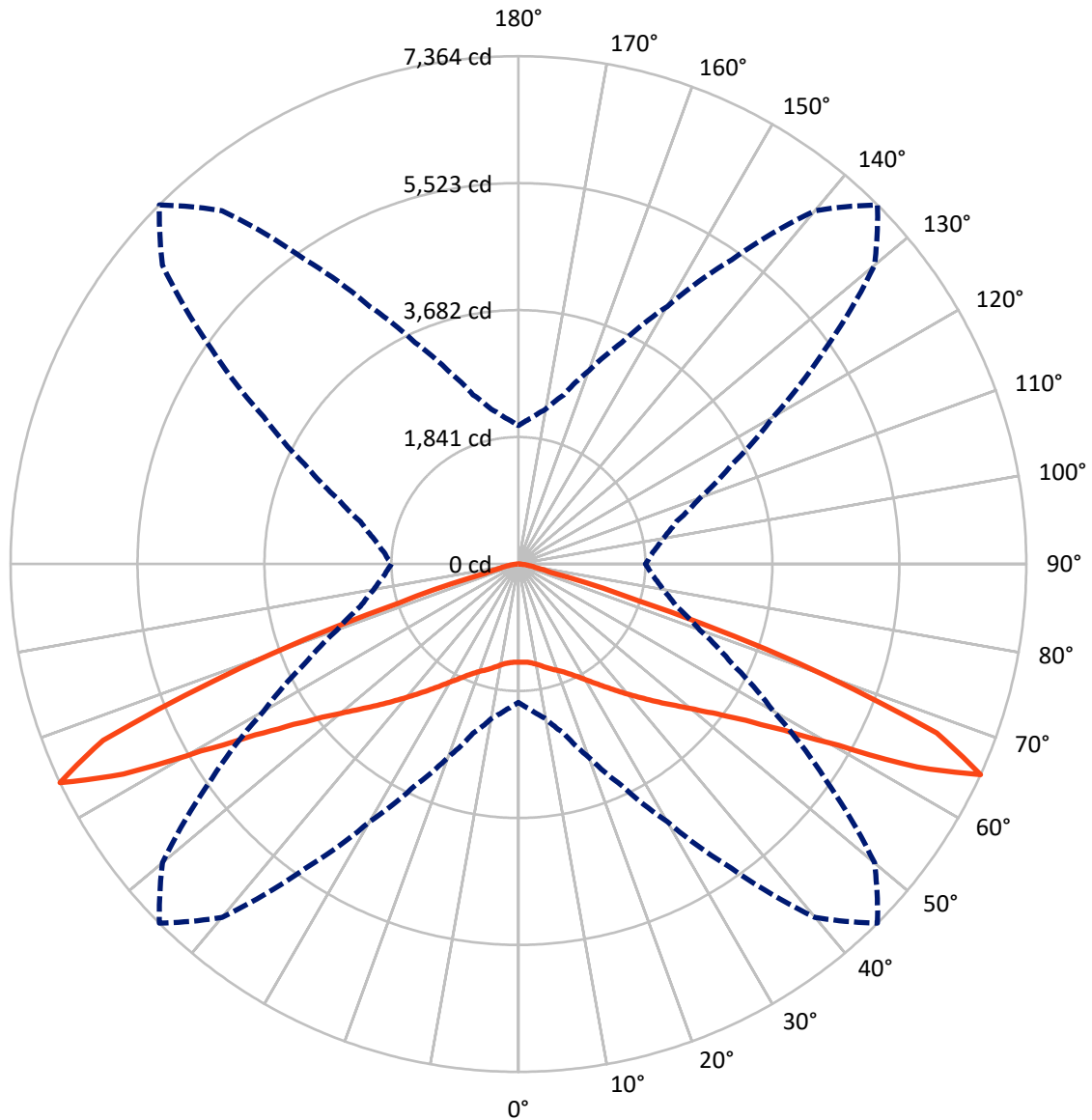
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.6 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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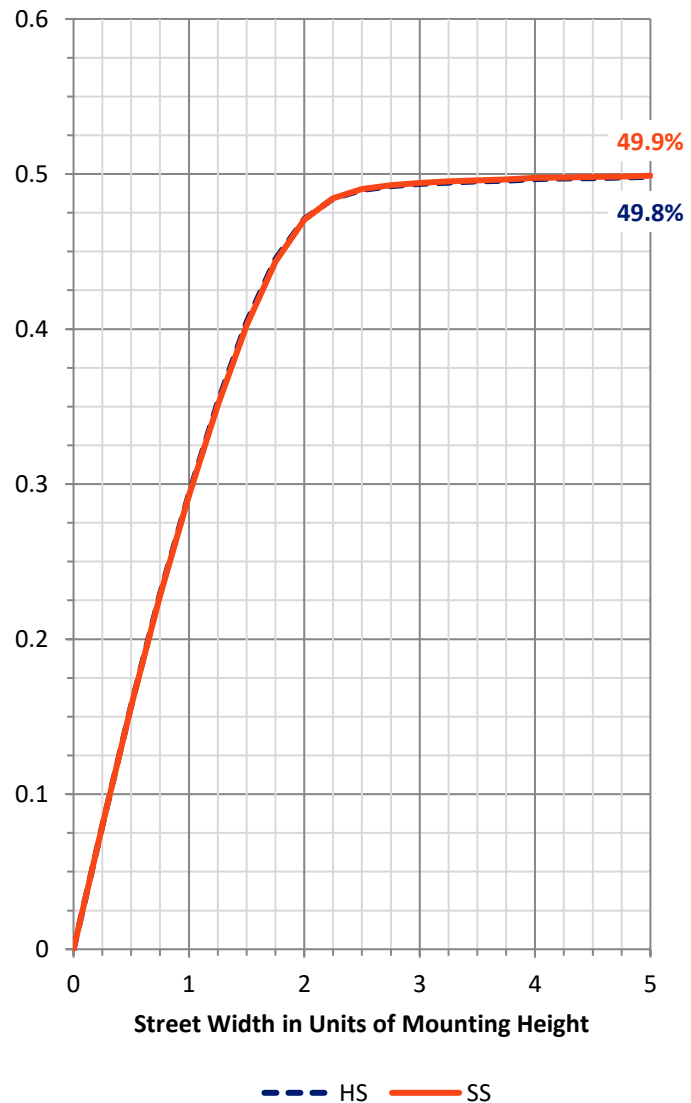
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6261.0	0.0	6261.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6261.0	0.0	6261.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	12522.0	0.0	12522.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.7	1.1
10°-20°	444.6	3.6
20°-30°	829.3	6.6
30°-40°	1398.3	11.2
40°-50°	2271.3	18.1
50°-60°	3558.8	28.4
60°-70°	3359.3	26.8
70°-80°	452.7	3.6
80°-90°	69.0	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°	12522.0	100.0
0°-180°	12522.0	100.0



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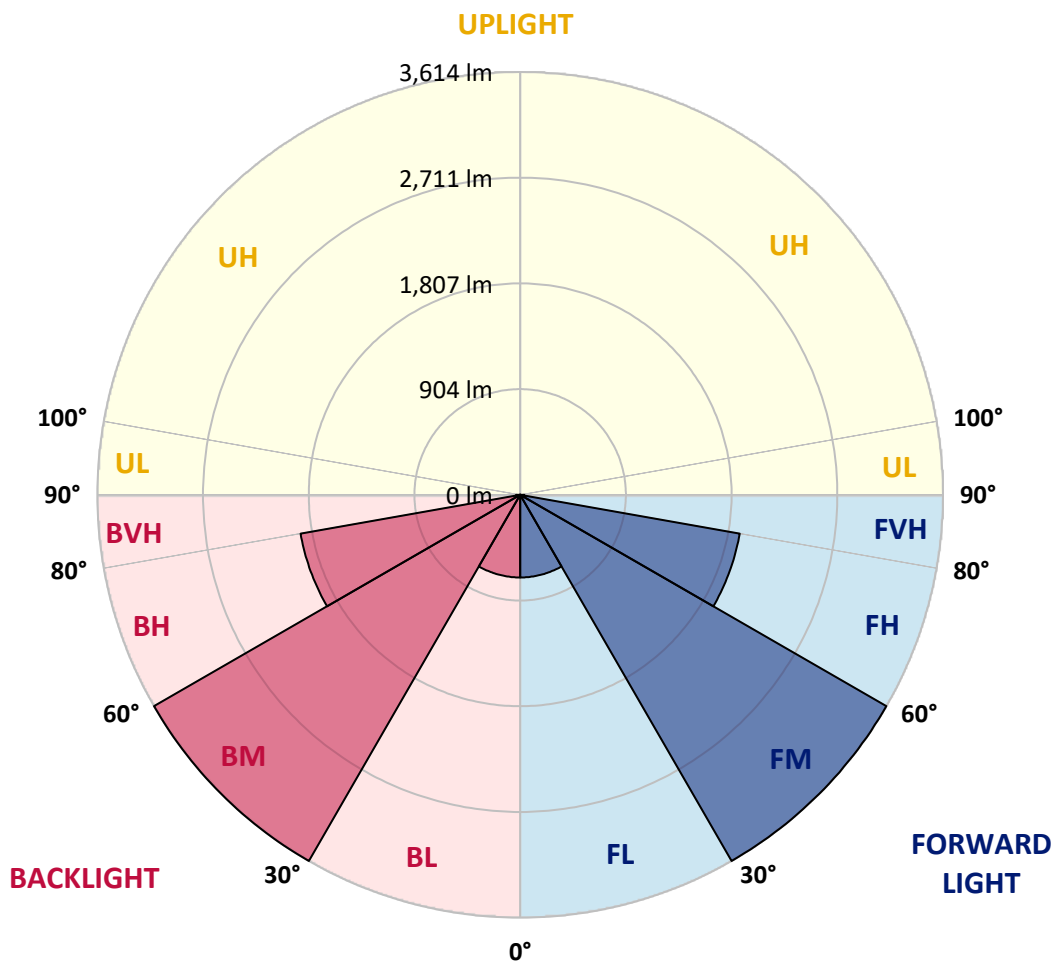
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	706.3	5.6			
FM	(30°-60°)	3614.2	28.9			
FH	(60°-80°)	1906.0	15.2			G2/5000
FVH	(80°-90°)	34.5	0.3			G1/100
BL	(0°-30°)	706.3	5.6	B2/1000		
BM	(30°-60°)	3614.2	28.9	B3/5000		
BH	(60°-80°)	1906.0	15.2	B3/2500		G2/5000
BVH	(80°-90°)	34.5	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	1424.4	1424.4	1424.4	1424.4	1424.4	1424.4	1424.4	1424.4	1424.4	1424.4	1424.4
2.5°	1436.1	1436.1	1438.4	1437.6	1434.5	1432.2	1429.8	1426.7	1425.1	1423.6	1422.8
5°	1443.9	1443.9	1446.2	1445.4	1443.1	1440.0	1438.4	1436.1	1433.7	1432.2	1432.9
7.5°	1463.4	1464.1	1464.9	1464.1	1461.8	1459.5	1456.3	1455.6	1452.4	1450.1	1451.7
10°	1493.0	1493.0	1493.8	1494.6	1493.0	1487.5	1487.5	1486.0	1482.9	1479.7	1480.5
12.5°	1525.8	1525.8	1526.5	1526.5	1526.5	1523.4	1524.2	1523.4	1519.5	1518.0	1519.5
15°	1557.8	1558.5	1558.5	1560.1	1560.1	1560.9	1564.0	1564.0	1562.4	1561.7	1561.7
17.5°	1595.2	1596.8	1597.5	1599.9	1600.7	1602.2	1605.3	1606.1	1606.9	1604.6	1605.3
20°	1645.1	1645.9	1648.2	1649.0	1652.1	1652.1	1653.7	1652.9	1651.4	1648.2	1648.2
22.5°	1701.3	1702.8	1707.5	1707.5	1711.4	1709.1	1709.9	1707.5	1703.6	1702.1	1700.5
25°	1774.6	1776.9	1780.8	1779.3	1780.8	1776.9	1776.9	1776.9	1774.6	1772.3	1771.5
27.5°	1867.4	1863.5	1867.4	1864.3	1863.5	1860.4	1861.2	1859.6	1857.3	1856.5	1853.4
30°	1964.2	1959.5	1961.8	1962.6	1961.0	1960.3	1957.1	1954.8	1950.9	1951.7	1949.3
32.5°	2074.9	2070.2	2072.6	2073.4	2071.8	2073.4	2072.6	2067.1	2062.4	2065.6	2065.6
35°	2206.7	2203.6	2209.9	2212.2	2207.5	2205.2	2202.1	2195.8	2188.8	2193.5	2194.3
37.5°	2365.1	2361.2	2365.9	2372.1	2363.5	2358.9	2346.4	2337.0	2332.3	2334.7	2337.8
40°	2529.7	2530.5	2543.7	2545.3	2535.9	2530.5	2518.0	2503.9	2490.7	2490.7	2494.6
42.5°	2702.9	2705.2	2720.8	2726.3	2723.1	2713.0	2695.8	2678.7	2661.5	2664.6	2669.3
45°	2898.6	2895.5	2911.9	2925.2	2922.8	2919.7	2903.3	2872.1	2856.5	2855.7	2863.5
47.5°	3104.6	3110.8	3128.0	3150.6	3149.8	3142.0	3121.0	3092.1	3063.2	3065.6	3074.9
50°	3344.8	3353.4	3382.3	3404.9	3408.0	3405.7	3380.7	3347.2	3306.6	3309.0	3321.4
52.5°	3560.1	3572.6	3606.1	3653.0	3681.8	3695.1	3678.7	3647.5	3606.1	3608.5	3621.7
55°	3755.1	3774.6	3824.6	3888.5	3946.2	4000.1	4024.3	4023.5	3993.1	4000.1	4017.2
57.5°	3877.6	3904.9	3980.6	4083.5	4198.2	4306.6	4400.2	4488.4	4507.9	4544.5	4544.5
60°	3713.0	3777.0	3877.6	4053.9	4279.3	4522.7	4786.4	5043.0	5208.4	5338.6	5268.4
62.5°	3100.7	3195.1	3336.3	3568.7	3919.7	4354.2	4883.9	5480.6	6103.1	6483.7	6204.5
65°	2006.3	2124.8	2278.5	2539.8	2982.1	3541.4	4312.9	5385.4	6688.1	7363.6	6739.6
67.5°	794.9	875.2	968.8	1154.5	1538.2	2087.4	2953.3	4276.2	5905.7	6543.0	5843.3
70°	379.9	393.1	411.1	450.9	546.8	737.9	1186.4	2106.9	3621.7	4293.4	3535.2
72.5°	274.6	276.9	285.5	298.8	326.8	365.8	444.6	644.3	1248.9	1815.9	1250.4
75°	208.3	211.4	216.1	223.1	237.9	256.6	286.3	343.2	427.5	493.0	426.7
77.5°	158.3	161.5	165.4	172.4	180.2	193.5	204.4	227.0	262.9	276.9	275.4
80°	115.4	120.9	127.1	133.4	138.8	145.1	145.9	156.8	177.1	190.3	186.4
82.5°	73.3	78.0	94.4	101.4	102.2	103.7	103.0	103.7	114.7	124.0	120.9
85°	46.8	49.9	58.5	66.3	64.7	67.9	67.9	66.3	61.6	53.0	63.2
87.5°	23.4	24.2	28.1	35.1	33.5	29.6	28.9	28.9	21.1	17.9	19.5
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°	1424.4	1424.4	1424.4	1424.4	1424.4	1424.4	1424.4	1424.4
2.5°	1420.5	1422.0	1419.7	1419.7	1418.9	1420.5	1418.1	1418.1
5°	1431.4	1433.7	1432.9	1432.9	1434.5	1436.1	1435.3	1434.5
7.5°	1450.9	1452.4	1454.0	1454.8	1456.3	1455.6	1457.1	1456.3
10°	1480.5	1479.0	1481.3	1479.0	1479.7	1478.2	1479.0	1479.0
12.5°	1518.0	1515.6	1514.1	1512.5	1512.5	1509.4	1509.4	1510.2
15°	1560.9	1557.0	1553.9	1552.3	1550.7	1550.7	1548.4	1549.9
17.5°	1603.0	1599.1	1593.6	1593.6	1591.3	1589.7	1588.2	1592.1
20°	1647.5	1643.6	1640.4	1639.7	1635.0	1633.4	1634.2	1638.9
22.5°	1698.9	1696.6	1696.6	1695.0	1691.9	1689.6	1689.6	1695.0
25°	1768.4	1763.7	1764.5	1765.2	1763.7	1763.7	1762.1	1766.0
27.5°	1853.4	1849.5	1851.8	1853.4	1851.8	1854.2	1851.8	1854.9
30°	1953.2	1950.9	1953.2	1955.6	1951.7	1951.7	1950.1	1952.5
32.5°	2072.6	2069.5	2071.0	2071.0	2065.6	2060.9	2054.6	2059.3
35°	2203.6	2199.7	2202.8	2205.2	2198.9	2194.3	2184.9	2188.8
37.5°	2347.9	2349.5	2353.4	2363.5	2362.0	2354.2	2347.2	2350.3
40°	2509.4	2517.2	2534.4	2541.4	2539.8	2532.0	2522.7	2524.2
42.5°	2691.9	2702.1	2720.0	2731.7	2726.3	2715.3	2703.6	2708.3
45°	2890.8	2906.4	2929.8	2941.6	2934.5	2922.8	2906.4	2915.0
47.5°	3101.5	3132.7	3163.9	3179.5	3177.1	3160.7	3139.7	3142.0
50°	3353.4	3394.8	3434.5	3450.1	3438.4	3413.5	3383.8	3383.1
52.5°	3667.0	3711.5	3744.2	3740.3	3711.5	3672.5	3638.9	3637.4
55°	4058.6	4073.4	4068.7	4035.2	3984.5	3923.6	3880.7	3873.7
57.5°	4532.1	4482.1	4408.8	4307.4	4193.5	4078.1	4000.1	3971.2
60°	5110.9	4885.4	4623.3	4347.2	4095.2	3906.5	3787.1	3714.6
62.5°	5589.0	4936.1	4350.3	3870.6	3478.2	3245.0	3082.0	2981.3
65°	5425.2	4264.5	3415.8	2797.2	2369.0	2128.0	1955.6	1840.9
67.5°	4191.2	2849.5	1982.9	1374.4	1042.1	882.2	770.7	698.1
70°	2113.1	1092.8	662.3	467.2	399.4	371.3	352.6	341.7
72.5°	620.1	414.2	344.0	304.2	280.0	262.9	252.0	246.5
75°	343.2	280.0	247.3	224.7	209.1	197.4	190.3	185.7
77.5°	236.4	203.6	187.2	172.4	159.9	151.3	145.9	141.2
80°	165.4	149.0	142.0	134.2	124.8	117.8	110.0	106.9
82.5°	110.0	103.0	101.4	95.2	89.7	81.9	67.9	63.2
85°	64.7	64.0	64.0	61.6	57.7	50.7	40.6	40.6
87.5°	22.6	23.4	24.2	25.7	25.0	21.1	17.2	16.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)