

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: P196052

Luminaire Tested: **NAV-AF-02-D-UNV-RW-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196052
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24161)
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-RW-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13967.4 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G3

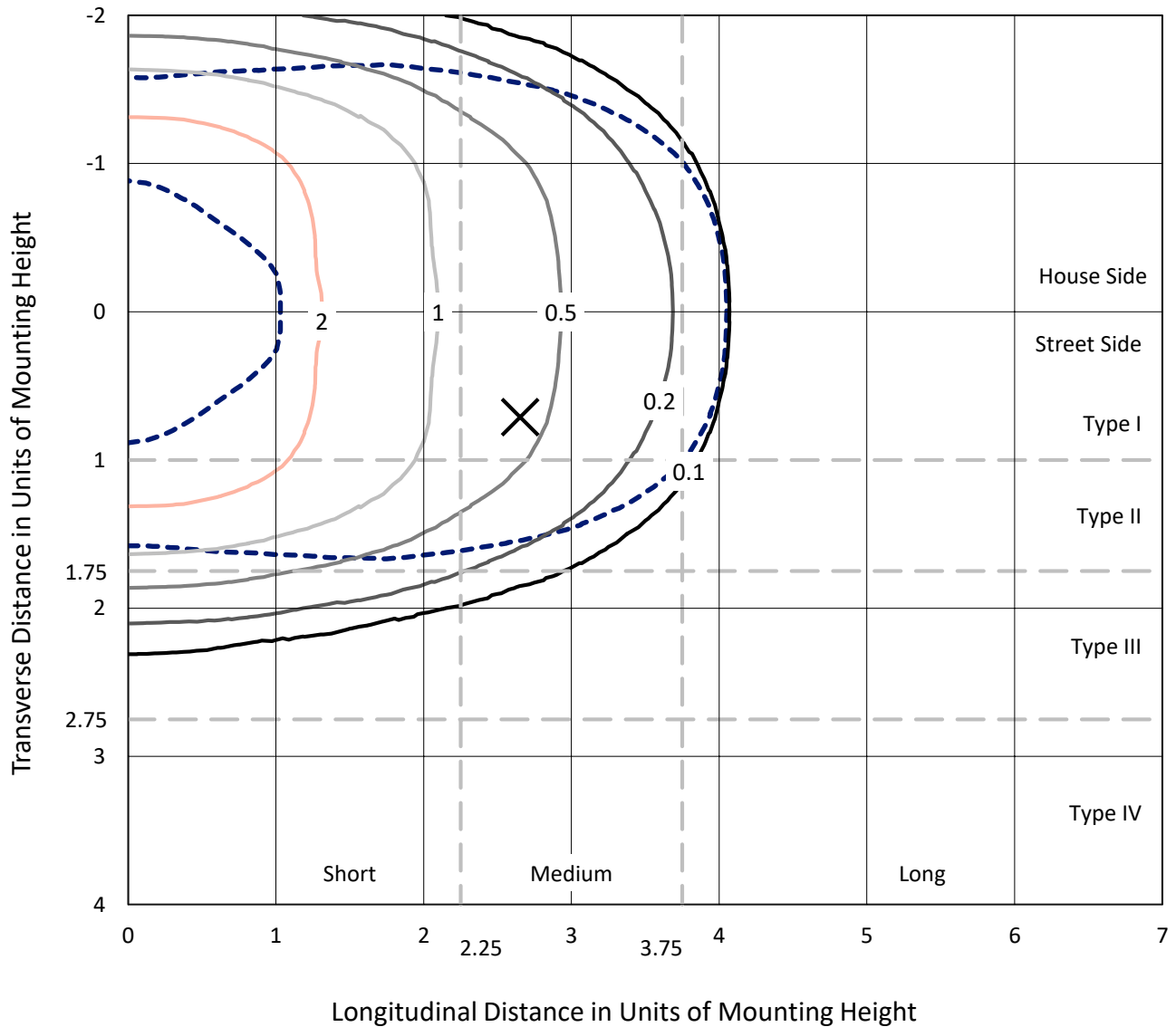
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

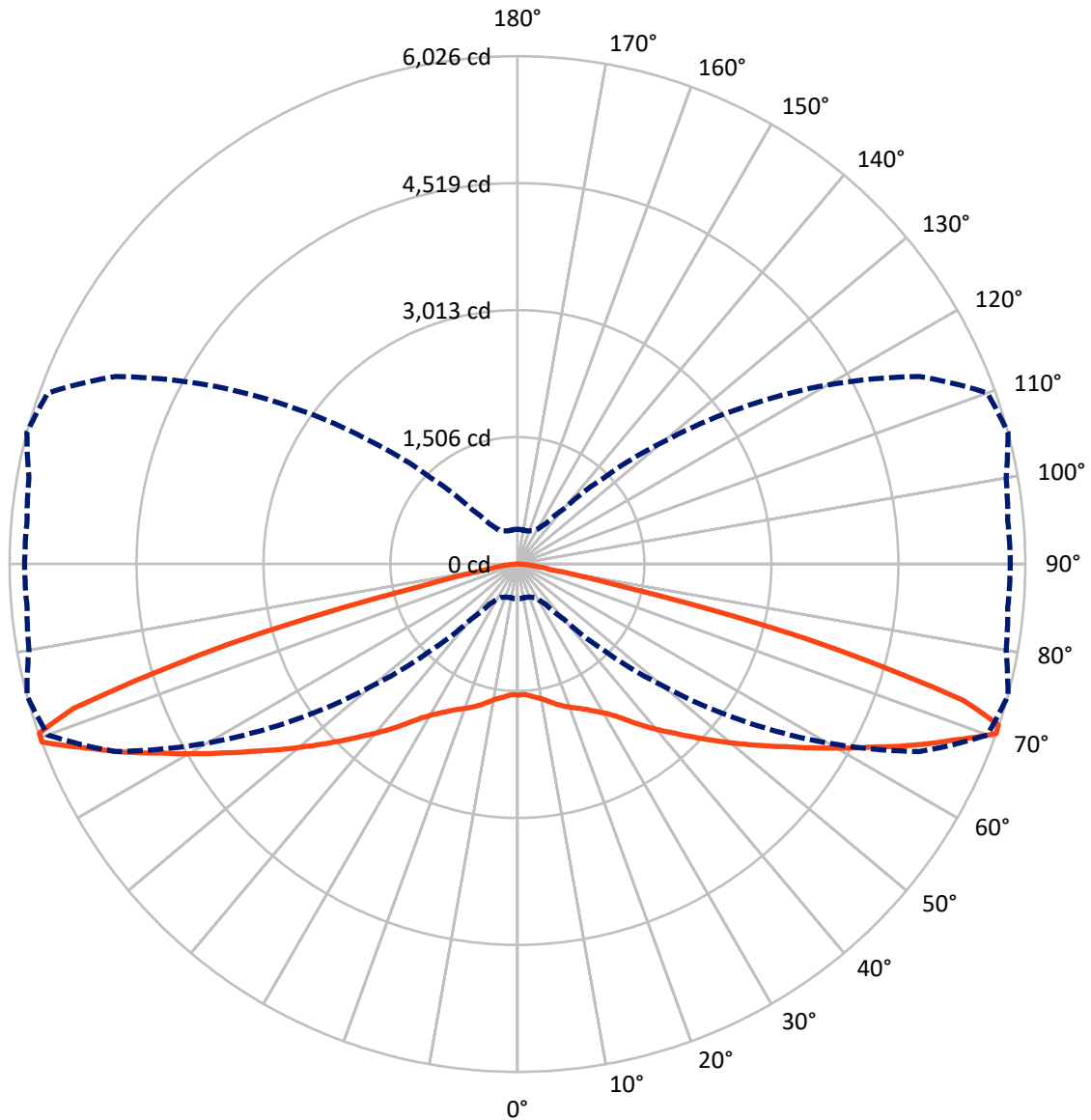
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.9 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6983.7	0.0	6983.7
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6983.7	0.0	6983.7
	% Fixture	50.0	0.0	50.0
Total	Lumens	13967.4	0.0	13967.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.2	1.1
10°-20°	462.7	3.3
20°-30°	869.0	6.2
30°-40°	1530.8	11.0
40°-50°	2537.0	18.2
50°-60°	3529.4	25.3
60°-70°	3331.8	23.9
70°-80°	1423.0	10.2
80°-90°	134.5	1.0
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°	13967.4	100.0
0°-180°	13967.4	100.0



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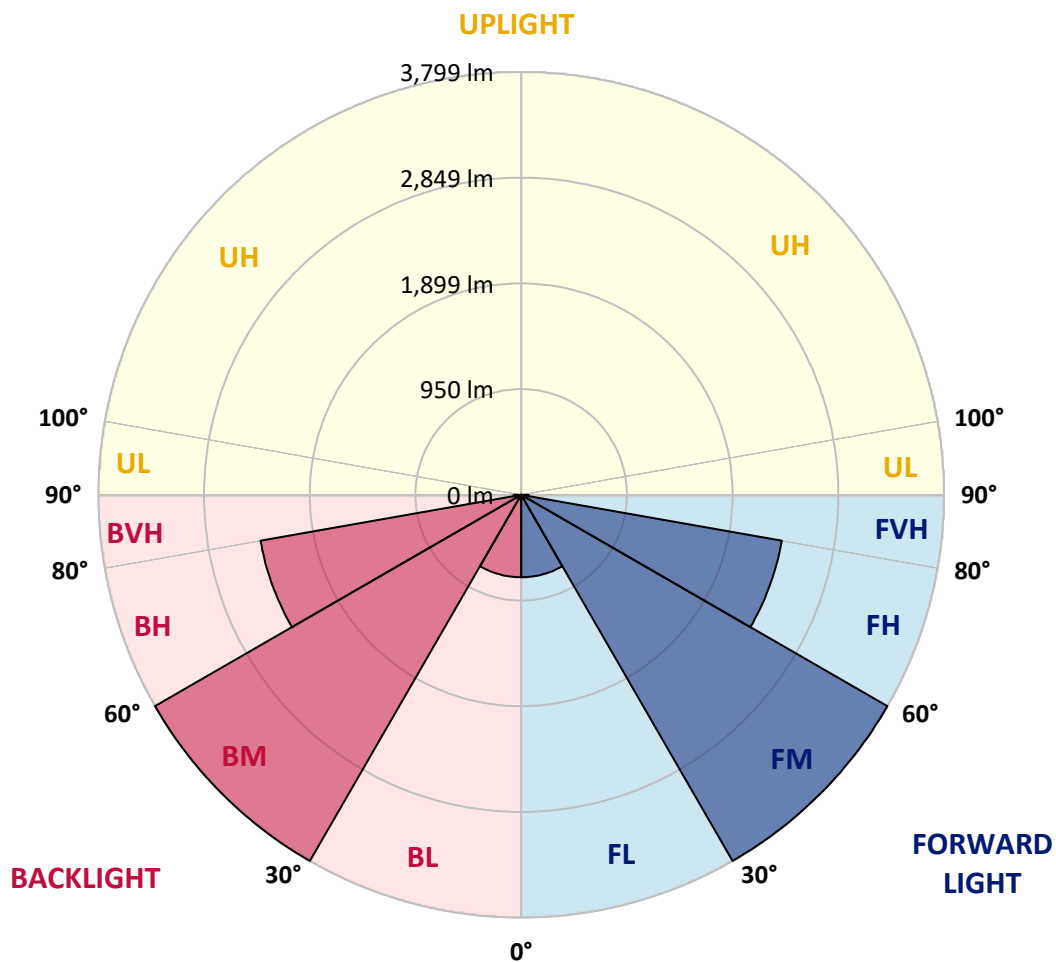
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	740.5	5.3			
FM	(30°-60°)	3798.6	27.2			
FH	(60°-80°)	2377.4	17.0			G2/5000
FVH	(80°-90°)	67.2	0.5			G1/100
BL	(0°-30°)	740.5	5.3	B2/1000		
BM	(30°-60°)	3798.6	27.2	B3/5000		
BH	(60°-80°)	2377.4	17.0	B3/2500		G3/2500
BVH	(80°-90°)	67.2	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1555.4	1555.4	1555.4	1555.4	1555.4	1555.4	1555.4	1555.4	1555.4	1555.4	1555.4
2.5°	1565.0	1564.2	1565.0	1562.5	1563.3	1562.5	1562.5	1558.9	1558.9	1557.1	1554.6
5°	1547.5	1549.3	1549.3	1549.3	1551.9	1551.9	1555.4	1556.3	1558.9	1561.5	1563.3
7.5°	1518.7	1519.5	1522.2	1523.9	1529.1	1536.2	1543.1	1551.0	1558.1	1566.8	1576.4
10°	1494.1	1495.9	1500.3	1504.7	1514.3	1523.0	1535.2	1547.5	1559.8	1574.6	1589.6
12.5°	1481.0	1483.6	1490.6	1497.6	1512.5	1523.9	1540.6	1559.8	1576.4	1590.4	1607.1
15°	1482.8	1483.6	1493.3	1502.9	1523.9	1539.6	1563.3	1586.1	1606.1	1621.9	1641.2
17.5°	1508.1	1509.9	1519.5	1533.5	1553.7	1573.8	1599.2	1622.8	1649.9	1668.3	1691.0
20°	1558.1	1560.6	1571.2	1586.1	1607.9	1628.9	1655.2	1679.7	1707.7	1729.6	1752.3
22.5°	1622.8	1627.2	1638.6	1657.0	1678.9	1704.2	1731.3	1756.7	1783.0	1804.9	1824.1
25°	1709.5	1714.7	1726.9	1745.4	1767.2	1794.4	1822.4	1848.7	1875.8	1892.4	1908.1
27.5°	1825.9	1834.7	1847.8	1862.6	1881.9	1910.8	1937.1	1959.0	1985.1	2003.6	2014.1
30°	1982.6	1994.8	2005.3	2021.0	2035.1	2065.7	2086.7	2104.2	2124.4	2134.9	2137.5
32.5°	2174.3	2185.6	2196.1	2207.5	2226.8	2254.8	2274.9	2284.6	2295.0	2293.3	2283.6
35°	2390.4	2399.2	2405.4	2425.4	2456.9	2475.3	2490.2	2493.7	2495.5	2477.1	2458.7
37.5°	2618.0	2628.5	2633.8	2665.3	2695.1	2716.0	2723.1	2731.0	2725.7	2695.1	2661.8
40°	2864.0	2875.3	2891.1	2918.3	2953.3	2973.4	2982.1	2981.3	2976.9	2941.0	2886.8
42.5°	3105.6	3119.6	3132.7	3179.9	3208.8	3243.0	3247.4	3246.4	3236.8	3195.7	3132.7
45°	3310.4	3327.0	3354.2	3406.6	3453.1	3494.2	3510.8	3516.9	3507.3	3463.5	3391.8
47.5°	3479.3	3490.7	3524.8	3588.7	3648.3	3708.6	3741.9	3765.5	3764.7	3733.2	3656.9
50°	3594.9	3607.9	3650.0	3721.8	3796.2	3867.1	3932.7	3986.1	4011.5	3988.7	3917.8
52.5°	3628.1	3644.8	3699.9	3785.6	3872.3	3967.7	4065.7	4160.2	4217.2	4231.2	4176.0
55°	3488.1	3506.5	3587.0	3706.0	3848.6	3989.6	4138.4	4273.2	4390.5	4444.7	4422.8
57.5°	3080.2	3093.3	3195.7	3349.8	3553.7	3801.4	4051.7	4298.5	4499.9	4640.8	4665.4
60°	2436.0	2452.6	2564.6	2727.4	2959.4	3272.7	3622.9	4027.3	4422.0	4745.0	4905.2
62.5°	1643.8	1655.2	1762.9	1911.7	2165.5	2467.5	2857.8	3369.9	3932.7	4509.6	4961.2
65°	863.1	863.1	935.7	1039.8	1242.1	1512.5	1912.5	2437.7	3107.3	3827.7	4583.0
67.5°	500.6	499.8	516.4	540.0	604.0	713.4	934.0	1319.9	1953.6	2792.2	3651.7
70°	413.2	410.5	407.9	407.9	417.5	434.1	476.2	582.1	851.7	1439.9	2246.9
71°	394.8	393.0	386.0	383.4	387.8	396.5	414.9	463.9	604.9	982.0	1677.9
72.5°	372.9	368.5	358.0	353.6	354.5	358.0	363.2	382.5	425.4	558.4	956.7
75°	339.6	329.1	316.0	309.9	307.2	306.4	306.4	311.6	321.2	337.0	392.1
77.5°	301.1	286.2	272.2	266.1	261.7	259.1	257.4	253.8	252.1	259.1	279.3
80°	254.7	239.0	227.6	224.0	221.5	216.1	209.2	202.2	197.8	201.3	213.6
82.5°	196.9	181.2	182.9	183.8	179.4	170.7	163.7	155.8	147.9	146.2	152.3
85°	156.7	148.8	143.5	155.0	145.3	134.8	125.2	112.0	93.7	77.0	84.0
87.5°	67.4	68.2	98.0	147.9	129.5	104.1	86.6	70.1	44.6	33.2	34.2
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°	1555.4	1555.4	1555.4	1555.4	1555.4	1555.4	1555.4	1555.4
2.5°	1553.7	1553.7	1551.0	1549.3	1549.3	1549.3	1547.5	1548.4
5°	1564.2	1565.9	1567.7	1566.8	1569.4	1572.1	1571.2	1570.3
7.5°	1581.7	1586.9	1592.1	1594.8	1598.3	1601.8	1602.7	1600.0
10°	1599.2	1609.7	1617.6	1624.5	1628.9	1632.4	1635.1	1634.2
12.5°	1621.1	1635.9	1649.9	1663.9	1673.5	1678.9	1684.1	1682.3
15°	1657.0	1673.5	1691.0	1709.5	1724.3	1732.2	1740.1	1738.3
17.5°	1706.0	1720.8	1734.8	1753.2	1771.6	1780.3	1789.1	1788.2
20°	1767.2	1778.6	1786.5	1797.0	1814.5	1824.1	1832.0	1829.3
22.5°	1837.2	1840.8	1841.6	1845.1	1859.1	1870.5	1881.0	1883.7
25°	1913.4	1910.8	1905.6	1902.9	1912.5	1924.8	1937.9	1941.5
27.5°	2008.0	1999.2	1986.1	1975.5	1978.2	1993.9	2008.8	2012.3
30°	2127.0	2106.9	2078.8	2058.7	2055.2	2071.8	2087.5	2092.9
32.5°	2262.7	2235.6	2197.0	2166.4	2153.2	2168.1	2182.2	2190.0
35°	2423.7	2393.9	2347.6	2308.2	2287.1	2296.7	2321.3	2330.1
37.5°	2614.6	2573.3	2521.8	2471.9	2436.9	2438.6	2464.8	2475.3
40°	2825.5	2766.0	2700.3	2638.2	2587.3	2583.9	2607.5	2615.4
42.5°	3045.1	2969.0	2892.0	2810.6	2747.5	2736.2	2766.8	2767.7
45°	3281.5	3183.4	3088.1	2993.6	2927.9	2907.7	2937.5	2941.0
47.5°	3533.6	3411.0	3298.1	3195.7	3124.8	3093.3	3122.1	3127.5
50°	3796.2	3669.2	3538.0	3424.1	3341.1	3302.5	3336.7	3340.1
52.5°	4056.1	3936.2	3805.8	3675.4	3574.7	3530.9	3571.2	3583.5
55°	4317.9	4202.3	4079.7	3949.3	3822.5	3783.9	3827.7	3840.8
57.5°	4590.1	4478.9	4367.7	4236.4	4113.0	4054.4	4101.6	4120.0
60°	4890.3	4792.2	4687.3	4555.0	4433.4	4365.1	4405.3	4426.4
62.5°	5185.2	5165.1	5069.7	4932.3	4778.2	4710.0	4744.1	4759.0
65°	5209.8	5536.2	5531.9	5395.3	5180.0	5065.3	5075.0	5082.0
67.5°	4547.1	5296.4	5775.2	5818.1	5578.3	5398.8	5377.9	5382.2
70°	3219.3	4247.8	5264.0	5931.0	6025.6	5886.4	5840.8	5847.9
71°	2579.5	3644.8	4763.4	5660.5	6018.5	5978.3	5952.9	5971.3
72.5°	1646.4	2685.5	3774.3	4847.4	5534.5	5731.5	5760.3	5771.7
75°	597.8	1155.4	1955.4	2801.9	3551.1	4066.6	4350.2	4373.0
77.5°	321.2	414.0	639.9	955.8	1200.9	1332.2	1347.9	1354.1
80°	236.3	273.9	313.3	358.0	386.0	391.3	381.7	361.5
82.5°	167.2	189.0	204.8	220.5	231.9	222.3	184.6	141.0
85°	97.2	106.8	115.5	123.4	125.2	118.2	77.9	63.9
87.5°	38.5	42.0	41.1	46.3	44.6	41.1	30.6	26.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)