

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: P195921

Luminaire Tested: **NAV-AF-03-D-UNV-5MQ-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195921
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-03-D-UNV-5MQ-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15943.7 lumens
Efficiency: N/A
Efficacy: 128.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

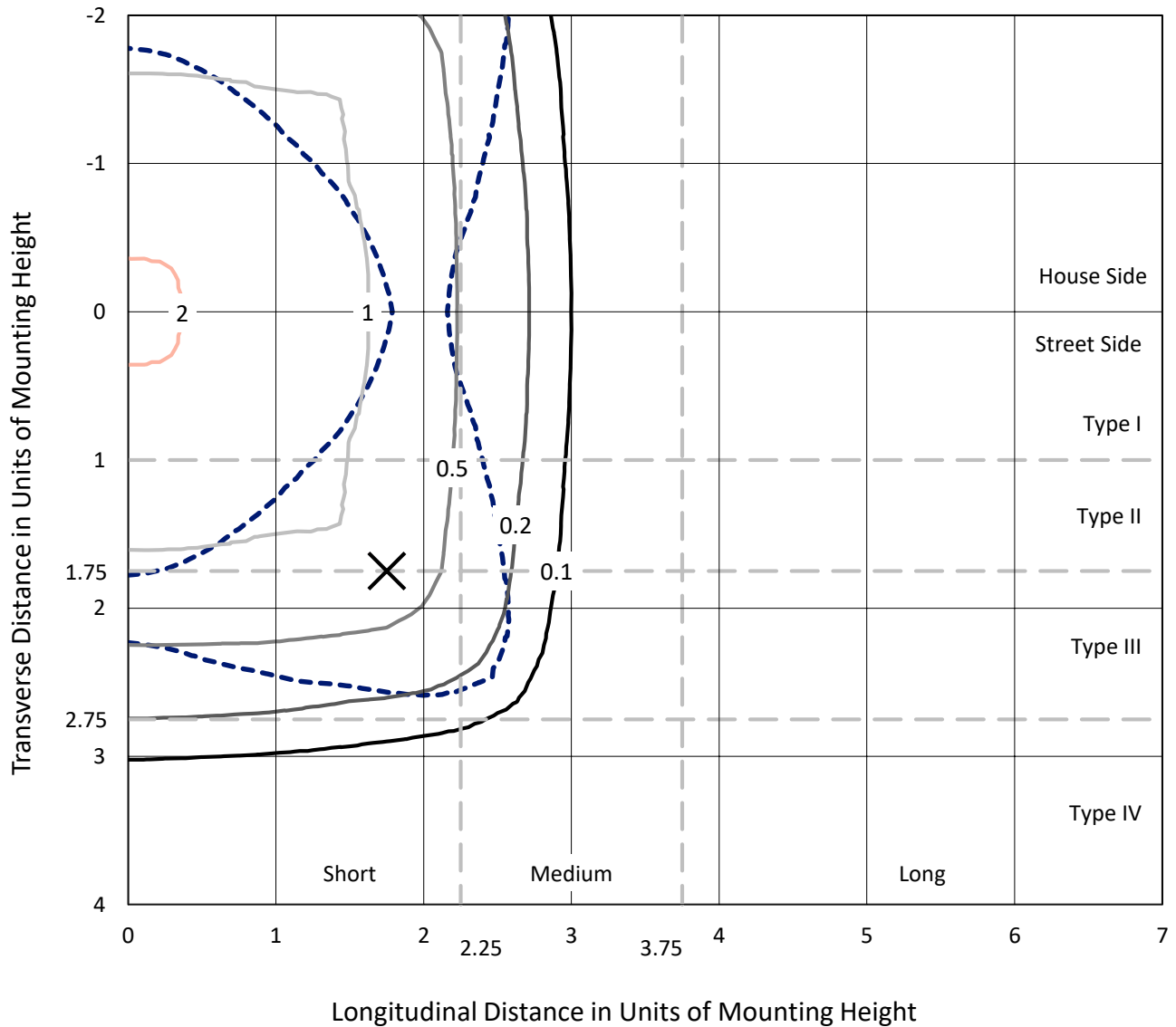
Input Watts (W): 124
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

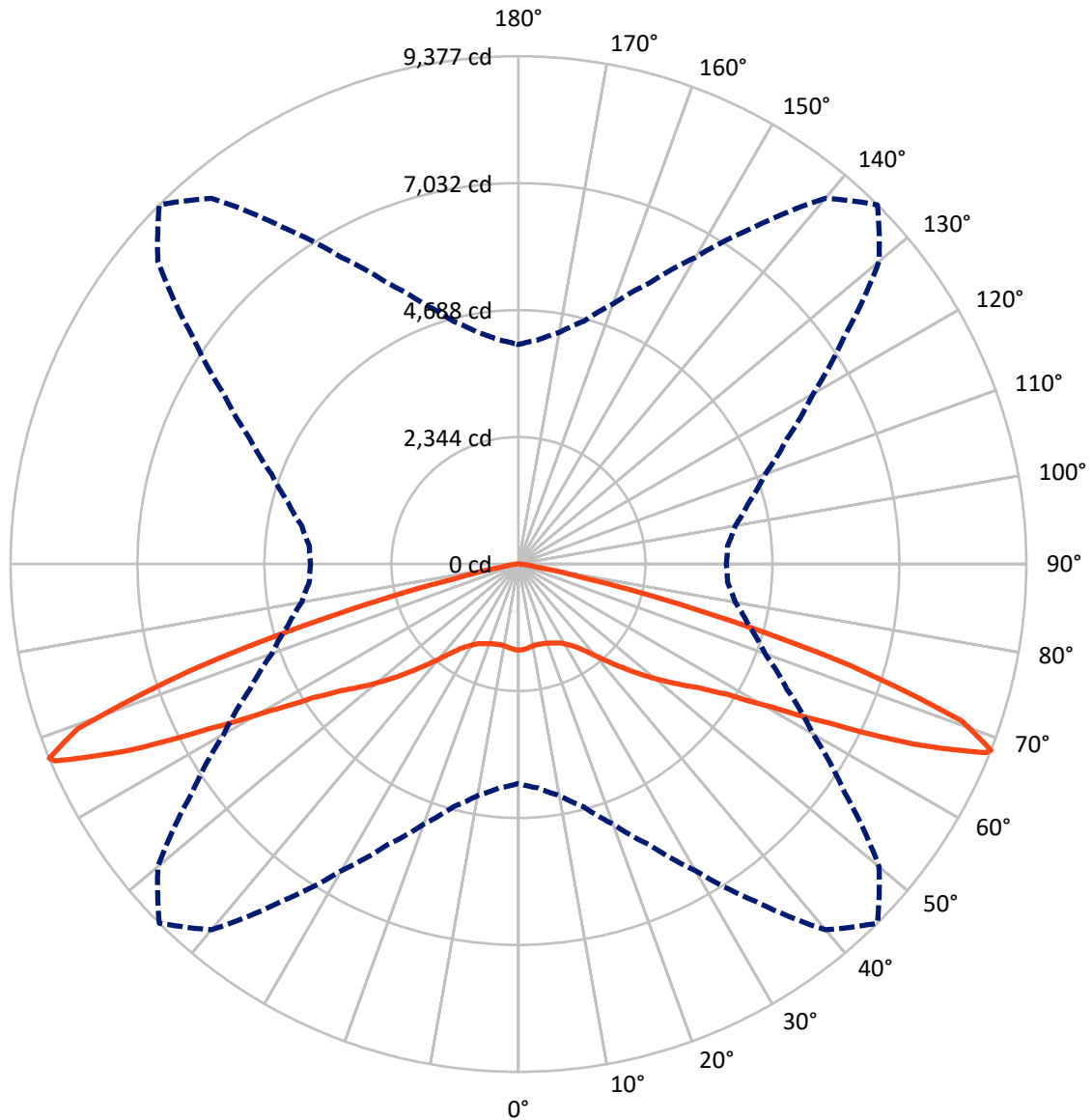
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.5 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	7971.9	0.0	7971.9
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	7971.9	0.0	7971.9
	% Fixture	50.0	0.0	50.0
Total	Lumens	15943.7	0.0	15943.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.8	0.9
10°-20°	431.6	2.7
20°-30°	733.8	4.6
30°-40°	1200.8	7.5
40°-50°	2146.0	13.5
50°-60°	3624.3	22.7
60°-70°	5619.9	35.2
70°-80°	1932.3	12.1
80°-90°	106.2	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°	15943.7	100.0
0°-180°	15943.7	100.0

Coefficient of Utilization



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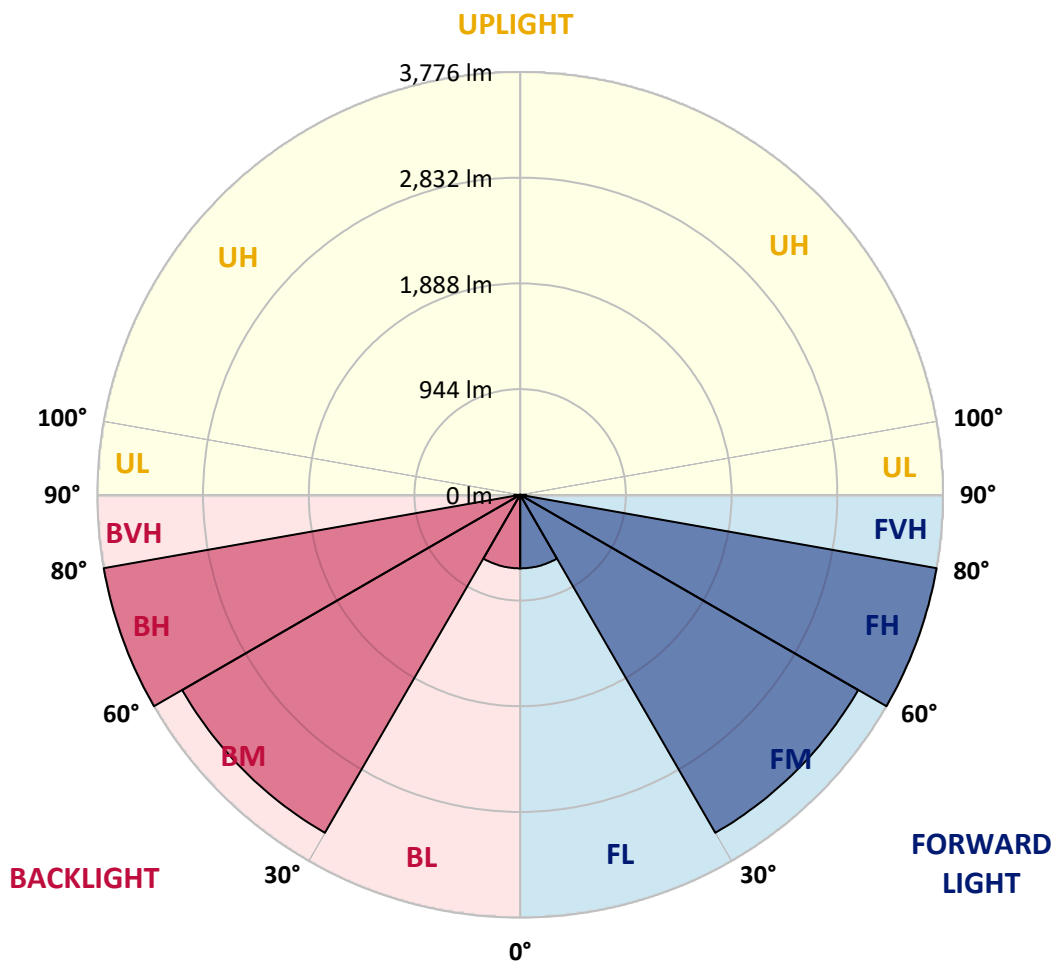
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	657.1	4.1			
FM	(30°-60°)	3485.6	21.9			
FH	(60°-80°)	3776.1	23.7			G2/5000
FVH	(80°-90°)	53.1	0.3			G1/100
BL	(0°-30°)	657.1	4.1	B2/1000		
BM	(30°-60°)	3485.6	21.9	B3/5000		
BH	(60°-80°)	3776.1	23.7	B4/5000		G2/5000
BVH	(80°-90°)	53.1	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°	1590.4	1590.4	1590.4	1590.4	1590.4	1590.4	1590.4	1590.4	1590.4	1590.4	1590.4
2.5°	1597.2	1597.2	1599.2	1598.3	1595.3	1592.4	1589.5	1586.5	1584.6	1582.6	1580.7
5°	1580.7	1580.7	1583.6	1581.7	1579.7	1576.8	1574.8	1571.9	1569.9	1568.0	1569.0
7.5°	1559.2	1561.1	1563.1	1562.1	1558.3	1557.2	1554.3	1553.4	1551.4	1548.4	1549.5
10°	1540.7	1541.6	1543.5	1542.6	1541.6	1538.7	1537.7	1536.8	1535.8	1531.9	1530.8
12.5°	1522.0	1524.0	1526.0	1527.0	1526.0	1527.0	1528.0	1528.9	1528.0	1526.0	1526.0
15°	1507.4	1509.4	1512.3	1515.3	1516.2	1522.0	1526.0	1529.9	1532.8	1533.8	1530.8
17.5°	1499.6	1502.6	1506.5	1512.3	1517.2	1524.0	1530.8	1536.8	1541.6	1542.6	1539.6
20°	1498.6	1501.6	1507.4	1514.3	1523.1	1531.9	1542.6	1551.4	1556.2	1559.2	1556.2
22.5°	1505.5	1509.4	1517.2	1526.0	1536.8	1548.4	1562.1	1571.9	1581.7	1585.6	1582.6
25°	1525.0	1528.9	1537.7	1548.4	1560.2	1574.8	1588.4	1601.1	1610.9	1615.9	1611.9
27.5°	1566.0	1567.0	1576.8	1588.4	1602.1	1614.8	1632.4	1638.3	1646.1	1650.9	1646.1
30°	1623.6	1625.6	1634.4	1652.9	1665.6	1682.2	1692.0	1697.8	1706.6	1711.5	1705.7
32.5°	1711.5	1713.4	1721.2	1738.8	1750.6	1763.3	1774.9	1778.9	1787.6	1793.5	1786.7
35°	1835.5	1839.4	1846.2	1858.0	1867.7	1877.4	1886.2	1883.4	1889.2	1897.0	1890.2
37.5°	2005.4	2004.4	2006.3	2015.1	2024.9	2030.8	2044.5	2037.6	2043.4	2050.3	2046.4
40°	2203.5	2203.5	2202.6	2218.2	2222.2	2228.0	2242.6	2233.8	2241.6	2249.5	2242.6
42.5°	2429.1	2433.0	2437.9	2450.6	2461.3	2463.3	2470.1	2466.2	2476.0	2482.8	2476.0
45°	2688.8	2694.7	2700.5	2729.8	2734.7	2738.5	2743.5	2730.8	2741.5	2747.3	2745.4
47.5°	2958.3	2969.0	2981.7	3012.0	3031.5	3040.3	3044.2	3029.6	3030.5	3039.3	3040.3
50°	3262.9	3274.6	3287.3	3321.4	3340.0	3355.6	3360.5	3343.9	3345.9	3352.7	3354.7
52.5°	3544.0	3557.7	3585.0	3631.0	3657.4	3684.7	3686.6	3666.1	3674.8	3679.8	3675.9
55°	3808.7	3826.2	3862.4	3923.8	3971.7	4025.4	4049.8	4027.4	4027.4	4023.5	4021.5
57.5°	4117.2	4136.7	4173.7	4245.0	4311.4	4388.6	4455.0	4477.5	4518.5	4532.1	4510.6
60°	4581.9	4602.4	4640.5	4734.2	4818.2	4930.4	5039.8	5128.7	5273.1	5351.3	5281.0
62.5°	5006.6	5037.8	5127.6	5291.7	5473.3	5681.3	5922.4	6094.2	6356.8	6487.7	6311.0
65°	4910.0	4973.4	5149.1	5406.9	5781.8	6232.8	6724.0	7195.5	7738.3	8016.6	7657.3
67.5°	4289.0	4342.7	4532.1	4831.8	5299.5	5921.5	6684.9	7661.2	8781.1	9302.4	8666.8
68°	4051.7	4152.3	4340.8	4638.5	5110.0	5721.3	6536.5	7590.9	8813.2	9376.6	8690.3
70°	3106.7	3142.8	3323.4	3591.0	4099.6	4699.0	5522.1	6724.0	8105.5	8685.4	7979.5
72.5°	1476.2	1497.7	1614.8	1878.4	2201.6	2689.7	3416.1	4549.7	5794.5	6397.8	5693.9
75°	540.8	545.7	573.1	635.6	756.7	940.2	1288.7	1993.6	2951.4	3519.7	2963.2
77.5°	292.0	292.9	303.6	319.3	340.7	365.2	417.9	560.4	904.1	1230.2	954.8
80°	183.5	182.6	193.3	206.0	220.7	232.4	237.2	253.8	286.0	334.9	307.5
82.5°	93.7	102.5	126.9	140.6	162.0	166.0	161.1	160.1	169.9	183.5	189.5
85°	51.8	45.9	67.4	89.8	97.6	100.6	101.6	95.6	93.7	91.8	96.7
87.5°	26.4	24.4	29.3	44.9	47.9	39.1	40.0	34.2	23.4	23.4	24.4
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°	1590.4	1590.4	1590.4	1590.4	1590.4	1590.4	1590.4	1590.4
2.5°	1578.7	1579.7	1577.7	1577.7	1577.7	1578.7	1577.7	1576.8
5°	1566.0	1568.0	1568.0	1569.0	1569.9	1569.9	1569.9	1569.9
7.5°	1547.5	1548.4	1550.4	1550.4	1550.4	1550.4	1550.4	1550.4
10°	1529.9	1528.0	1527.0	1525.0	1525.0	1522.0	1523.1	1524.0
12.5°	1521.1	1517.2	1515.3	1512.3	1510.4	1507.4	1507.4	1508.4
15°	1525.0	1519.2	1513.4	1511.3	1509.4	1507.4	1505.5	1506.5
17.5°	1532.8	1526.0	1519.2	1515.3	1511.3	1508.4	1507.4	1508.4
20°	1549.5	1539.6	1528.9	1522.0	1514.3	1512.3	1509.4	1512.3
22.5°	1571.9	1560.2	1546.5	1533.8	1525.0	1521.1	1517.2	1520.1
25°	1599.2	1586.5	1572.9	1558.3	1548.4	1545.5	1540.7	1540.7
27.5°	1637.3	1626.6	1614.8	1601.1	1591.4	1588.4	1580.7	1580.7
30°	1697.8	1687.1	1676.3	1664.6	1654.8	1652.0	1642.1	1642.1
32.5°	1777.9	1766.1	1759.4	1749.6	1741.8	1736.9	1725.2	1724.2
35°	1885.3	1874.6	1873.5	1866.8	1858.9	1859.9	1848.2	1846.2
37.5°	2039.6	2030.8	2033.7	2027.8	2020.9	2026.9	2020.0	2020.0
40°	2236.8	2233.8	2236.8	2232.9	2233.8	2234.8	2228.9	2230.9
42.5°	2475.0	2467.2	2484.7	2482.8	2479.8	2487.7	2474.0	2464.3
45°	2749.3	2746.4	2764.0	2766.9	2761.0	2766.0	2741.5	2740.6
47.5°	3047.1	3047.1	3062.7	3060.8	3054.9	3055.9	3026.6	3008.1
50°	3357.5	3355.6	3371.2	3367.3	3359.6	3358.6	3328.3	3309.8
52.5°	3680.8	3680.8	3703.2	3692.4	3673.9	3665.1	3628.0	3603.7
55°	4038.1	4033.2	4040.0	4004.9	3968.7	3942.4	3896.5	3878.0
57.5°	4490.1	4433.5	4384.7	4339.8	4289.0	4257.7	4204.0	4184.5
60°	5131.5	4980.2	4914.8	4825.0	4741.1	4699.0	4627.7	4589.7
62.5°	6020.1	5769.1	5591.4	5393.2	5201.8	5067.1	4958.8	4910.9
65°	7047.1	6500.3	6048.3	5623.7	5263.4	4977.3	4818.2	4768.4
67.5°	7437.7	6434.0	5653.8	5044.7	4607.3	4266.5	4076.2	4036.2
68°	7354.6	6281.6	5471.4	4847.5	4408.1	4064.4	3875.0	3838.9
70°	6487.7	5299.5	4444.2	3823.3	3413.3	3086.1	2952.4	2894.8
72.5°	4422.7	3403.5	2610.7	2088.4	1781.8	1574.8	1451.8	1409.8
75°	2035.7	1375.7	918.7	686.4	582.9	533.1	495.0	485.2
77.5°	593.6	431.6	371.0	343.7	323.2	305.6	292.9	292.0
80°	282.1	264.5	256.8	239.2	220.7	204.1	192.3	194.3
82.5°	189.5	184.5	184.5	166.9	137.7	118.2	97.6	87.9
85°	100.6	104.4	110.3	104.4	90.8	67.4	43.9	47.9
87.5°	34.2	39.1	41.0	40.0	36.1	27.3	20.5	20.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)