

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: P196981

Luminaire Tested: **NAV-AF-01-D-UNV-AFL-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196981
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-AFL-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 80 CRI, 3000K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5107 lumens
Efficiency: N/A
Efficacy: 86.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

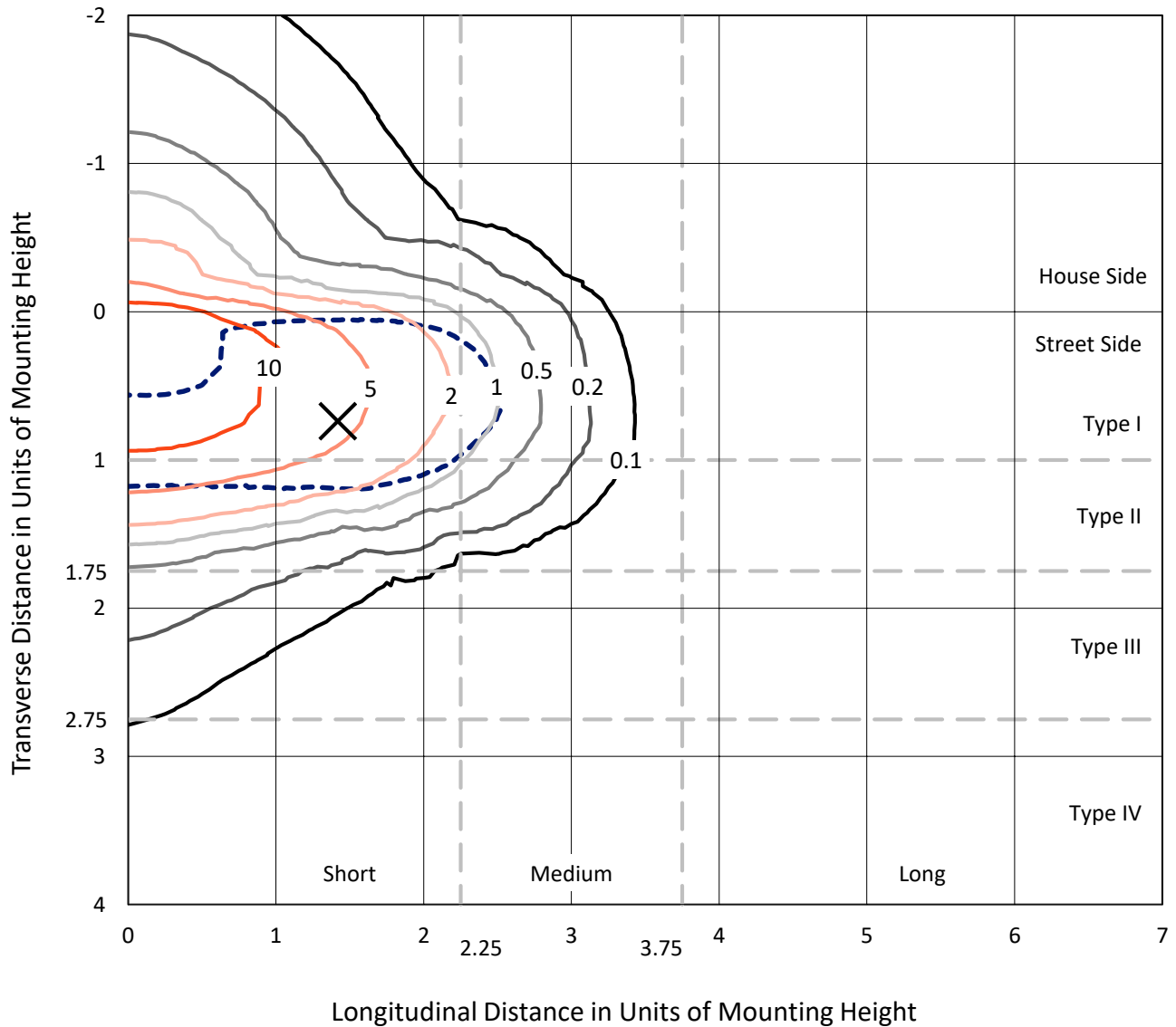
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

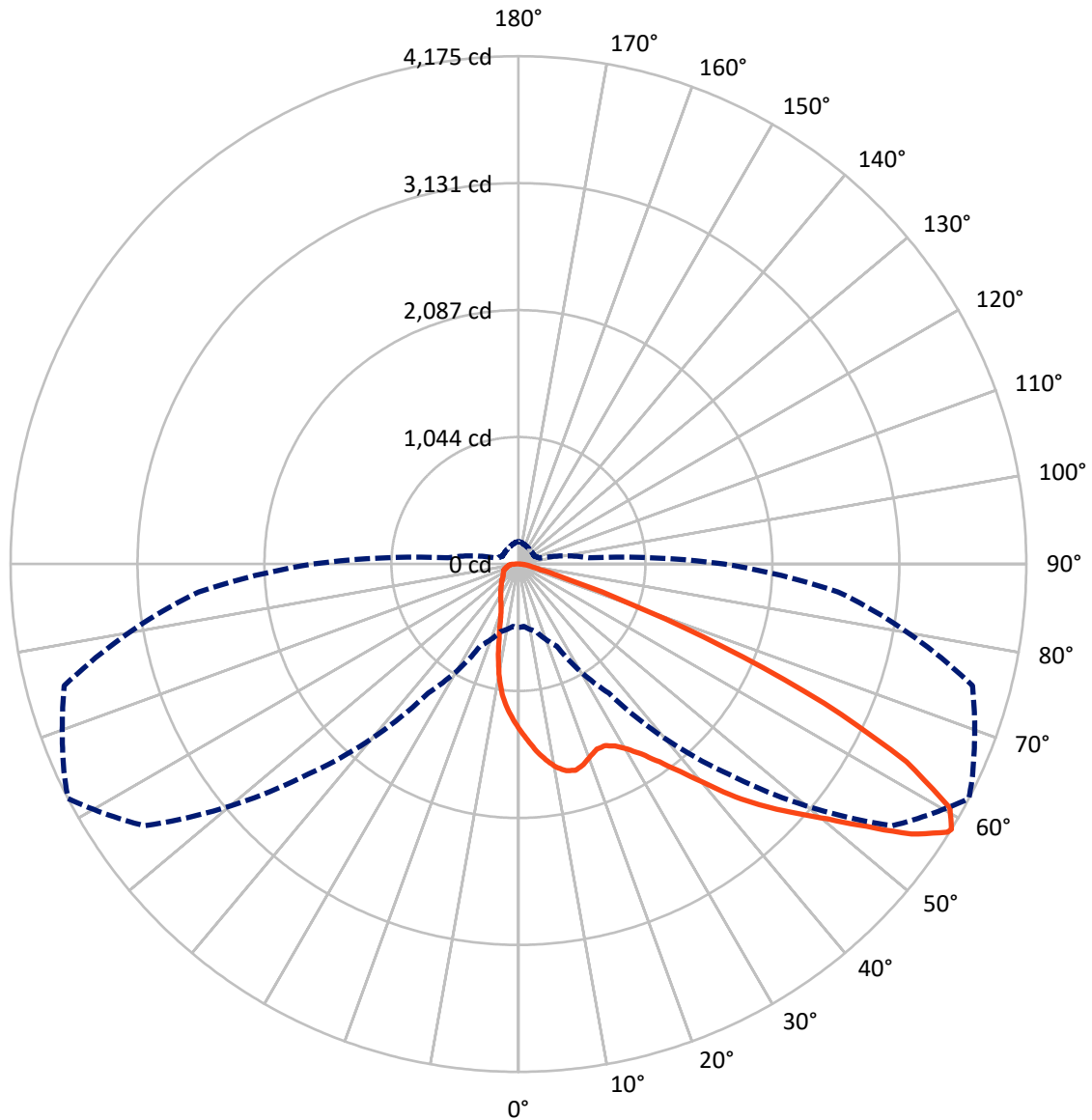
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

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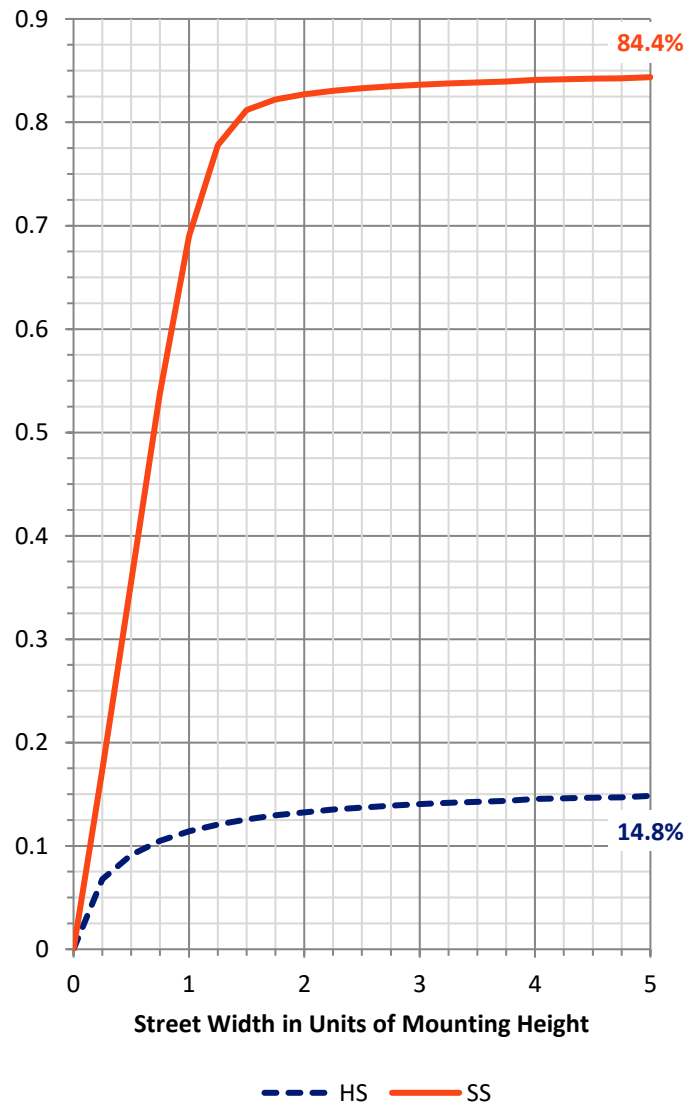
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	784.1	0.0	784.1
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	4322.9	0.0	4322.9
	% Fixture	84.6	0.0	84.6
Total	Lumens	5107.0	0.0	5107.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.9	2.4
10°-20°	307.6	6.0
20°-30°	498.5	9.8
30°-40°	795.9	15.6
40°-50°	1157.6	22.7
50°-60°	1211.3	23.7
60°-70°	738.5	14.5
70°-80°	206.5	4.0
80°-90°	69.2	1.4
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°	5107.0	100.0
0°-180°	5107.0	100.0



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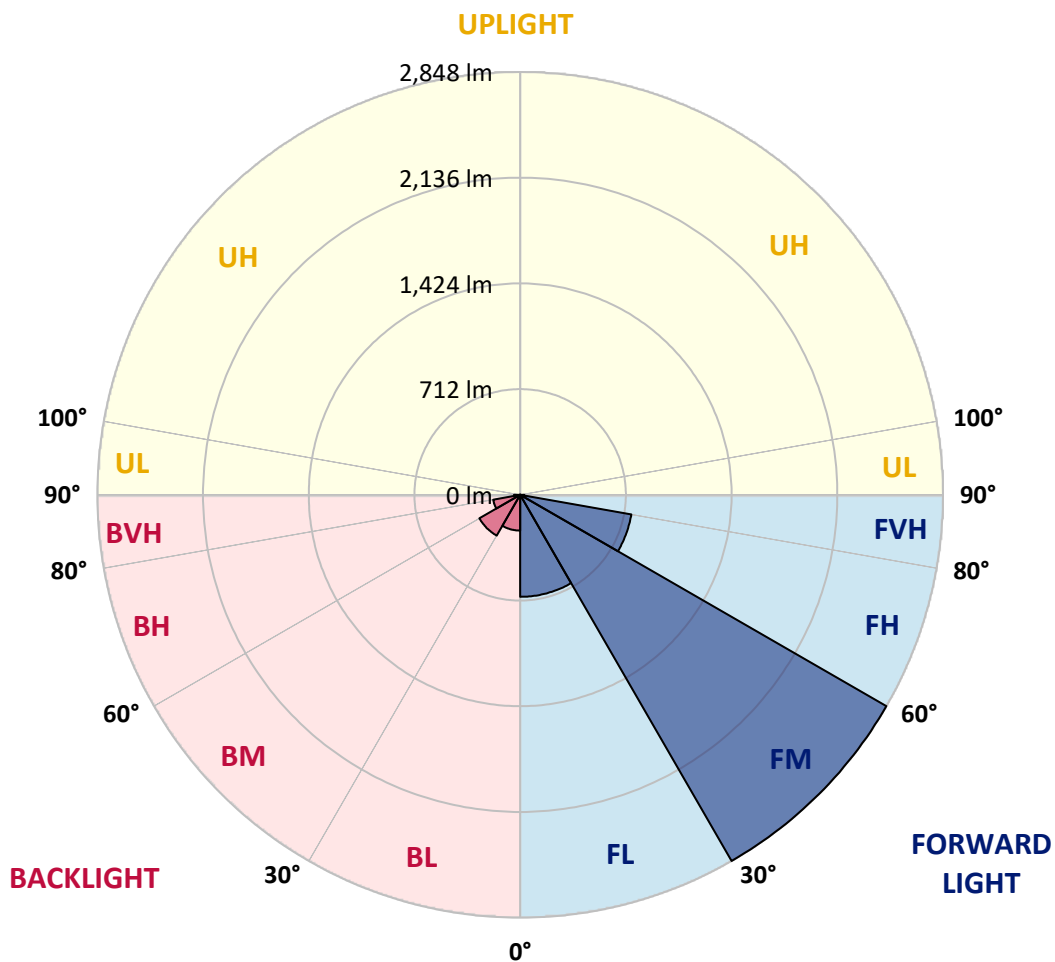
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	686.9	13.5			
FM	(30°-60°)	2847.7	55.8			
FH	(60°-80°)	760.4	14.9			G1/1800
FVH	(80°-90°)	27.8	0.5			G1/100
BL	(0°-30°)	241.0	4.7	B1/500		
BM	(30°-60°)	317.1	6.2	B1/1000		
BH	(60°-80°)	184.6	3.6	B1/500		G1/500
BVH	(80°-90°)	41.4	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	1363.5	1363.5	1363.5	1363.5	1363.5	1363.5	1363.5	1363.5	1363.5	1363.5	1363.5
2.5°	1547.7	1546.7	1533.7	1525.0	1514.8	1491.2	1467.6	1450.0	1441.1	1406.9	1373.7
5°	1675.7	1671.9	1664.5	1655.3	1641.9	1612.2	1574.8	1542.6	1529.8	1469.2	1408.2
7.5°	1608.0	1614.1	1636.8	1662.3	1689.1	1691.0	1664.5	1626.2	1612.2	1531.1	1441.7
10°	1420.7	1418.1	1446.5	1496.3	1584.7	1672.2	1715.9	1697.1	1682.4	1589.8	1475.2
12.5°	1363.9	1363.2	1368.0	1380.8	1436.3	1556.3	1702.8	1743.7	1738.6	1652.1	1511.0
15°	1381.1	1381.7	1381.4	1383.0	1398.3	1455.5	1629.7	1759.3	1775.3	1713.7	1547.4
17.5°	1436.3	1434.1	1427.1	1419.4	1421.6	1442.1	1550.9	1732.5	1780.4	1768.6	1578.0
20°	1521.5	1521.5	1502.7	1481.3	1467.3	1471.7	1518.0	1686.5	1756.8	1815.2	1601.0
22.5°	1628.5	1630.1	1602.3	1563.3	1531.4	1519.3	1536.9	1652.4	1728.0	1858.3	1621.4
25°	1761.2	1760.9	1720.4	1664.5	1614.1	1585.0	1584.7	1654.0	1719.1	1908.7	1642.8
27.5°	1925.6	1910.6	1863.4	1783.9	1712.7	1668.4	1648.2	1694.2	1737.9	1970.6	1671.5
30°	2111.1	2095.7	2033.8	1931.7	1835.3	1770.5	1737.3	1763.8	1795.4	2049.5	1715.0
32.5°	2294.6	2298.1	2225.3	2110.1	1986.3	1895.0	1845.8	1862.1	1884.1	2145.8	1773.7
35°	2563.3	2563.0	2467.9	2323.9	2176.8	2050.4	1988.2	1996.8	2016.9	2281.8	1856.0
37.5°	2763.8	2760.6	2699.3	2571.9	2406.3	2254.7	2164.7	2166.0	2183.2	2452.6	1964.6
40°	2784.2	2783.6	2783.2	2765.1	2651.7	2508.8	2396.1	2372.8	2379.8	2633.9	2079.8
42.5°	2628.1	2651.4	2718.5	2821.2	2852.8	2777.8	2671.2	2619.2	2603.9	2842.0	2201.7
45°	2405.7	2417.5	2534.9	2766.0	2954.0	3030.6	2950.5	2840.7	2814.5	3044.3	2301.0
47.5°	2302.2	2297.1	2365.1	2617.0	2944.1	3231.7	3237.4	3057.4	3013.1	3218.9	2385.5
50°	2080.4	2073.7	2159.6	2397.7	2836.2	3331.6	3532.0	3293.6	3211.6	3384.9	2462.2
52.5°	1638.3	1632.0	1747.2	2053.9	2594.9	3294.3	3780.4	3583.4	3443.6	3544.8	2533.6
55°	1066.1	1066.7	1176.5	1492.8	2099.9	3076.6	3896.9	3918.2	3761.5	3704.7	2591.4
57.5°	587.0	581.5	659.7	854.1	1444.6	2582.2	3799.8	4159.5	4077.8	3842.0	2633.2
58°	521.9	515.5	575.8	743.4	1295.2	2442.7	3751.0	4174.9	4118.4	3864.6	2639.3
60°	371.8	361.0	351.7	419.1	746.2	1761.2	3425.4	4075.6	4130.2	3910.0	2633.6
62.5°	313.4	301.0	267.8	265.2	351.4	861.5	2708.9	3579.3	3732.2	3805.6	2541.0
65°	291.1	278.6	234.9	219.3	238.4	371.8	1675.1	2763.8	2968.1	3442.7	2308.0
67.5°	275.1	260.5	213.5	193.1	196.9	222.5	710.8	1807.5	2044.3	2684.6	1851.6
70°	260.8	244.5	196.6	173.0	169.8	169.2	277.7	943.8	1172.0	1756.8	1240.3
72.5°	244.5	228.5	181.6	156.4	149.4	137.2	166.9	390.0	534.6	861.1	568.5
75°	220.9	207.8	165.0	142.7	130.5	111.4	123.2	187.0	230.4	329.7	264.0
77.5°	194.4	183.8	148.1	131.2	114.9	91.0	94.2	126.7	142.4	185.8	152.9
80°	137.6	141.4	129.3	115.5	101.2	73.4	72.5	92.9	102.1	124.8	102.8
82.5°	94.8	97.7	105.3	91.3	81.7	57.1	53.3	64.5	69.3	75.3	49.8
85°	67.7	65.8	73.1	65.4	60.0	36.4	34.2	40.9	43.7	46.0	23.9
87.5°	41.2	40.9	42.1	33.8	31.3	18.5	16.9	19.5	20.7	20.1	11.5
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1363.5	1363.5	1363.5	1363.5	1363.5	1363.5	1363.5	1363.5	1363.5	1363.5	1363.5
2.5°	1361.3	1345.7	1311.5	1284.1	1254.4	1231.7	1209.1	1196.3	1182.2	1174.3	1173.3
5°	1376.3	1344.4	1271.6	1203.9	1134.4	1071.8	1010.5	965.2	928.2	907.1	905.8
7.5°	1392.9	1342.8	1230.4	1113.3	989.5	866.3	757.4	680.5	631.0	608.0	606.4
10°	1405.7	1336.1	1180.3	998.1	801.8	639.0	540.1	494.7	479.7	475.9	475.3
12.5°	1421.0	1331.3	1117.1	850.3	612.8	486.4	456.4	453.6	456.7	458.7	459.0
15°	1435.4	1322.0	1031.9	686.6	479.7	434.7	435.4	441.4	447.8	450.7	451.0
17.5°	1442.1	1299.4	919.9	541.0	419.7	411.4	418.8	426.7	432.5	434.7	434.7
20°	1442.1	1263.0	790.0	438.2	388.4	390.0	399.0	405.0	406.3	404.4	403.4
22.5°	1436.0	1218.0	663.6	382.4	362.9	369.0	376.0	371.8	356.8	345.4	343.1
25°	1430.6	1164.7	542.0	348.2	340.6	348.5	345.7	317.3	294.3	282.5	280.6
27.5°	1421.6	1100.2	440.5	320.1	318.9	325.2	296.8	269.4	257.9	251.5	250.2
30°	1419.4	1030.3	368.7	295.2	297.5	288.5	256.0	247.0	244.5	241.0	239.4
32.5°	1426.7	960.4	323.6	274.8	277.0	247.7	235.2	236.5	236.2	231.7	230.1
35°	1446.8	892.4	294.9	256.3	249.9	221.8	223.4	227.3	227.3	221.8	219.9
37.5°	1482.0	829.2	276.7	240.7	218.6	208.4	212.6	217.7	217.7	213.9	212.3
40°	1519.3	767.6	263.0	228.2	198.8	199.2	203.3	207.1	208.7	209.4	208.1
42.5°	1553.1	703.8	248.3	214.8	189.9	192.1	194.1	196.9	203.6	208.1	207.5
45°	1572.9	639.6	232.4	198.2	183.8	184.8	184.2	189.3	197.3	204.0	204.0
47.5°	1591.1	587.0	219.3	181.6	177.8	177.8	175.9	181.0	188.3	196.3	196.9
50°	1608.3	552.8	210.0	168.8	170.1	169.2	168.5	173.3	183.2	192.8	194.4
52.5°	1625.9	541.3	201.7	159.6	162.1	160.9	161.5	168.2	179.4	189.3	190.9
55°	1650.5	548.7	193.1	153.2	154.5	154.2	156.7	164.4	174.3	184.2	184.8
57.5°	1680.8	575.5	185.8	148.4	147.1	149.1	153.2	160.5	170.1	181.9	182.9
58°	1686.9	581.9	184.5	147.1	145.5	148.4	152.6	159.6	169.5	181.9	182.9
60°	1696.1	604.5	181.3	144.6	140.1	145.2	150.3	157.4	168.2	183.5	185.4
62.5°	1651.4	609.0	180.3	141.7	134.4	140.8	146.8	154.8	166.9	189.0	193.1
65°	1496.6	563.0	173.6	136.9	129.6	137.2	143.6	152.9	170.8	205.2	207.1
67.5°	1201.4	467.6	157.4	129.6	124.2	133.1	141.1	152.9	172.4	207.8	209.1
70°	826.0	351.4	136.9	121.6	117.8	128.0	140.1	156.4	166.9	196.6	192.8
72.5°	431.5	244.5	120.0	112.4	110.1	123.5	149.4	152.9	160.5	183.5	179.7
75°	217.4	166.3	105.6	101.8	101.5	121.9	167.3	147.1	153.8	172.7	181.0
77.5°	128.3	130.2	94.2	91.9	93.5	119.1	167.6	141.4	146.2	159.0	167.9
80°	87.8	107.6	85.2	84.6	85.9	109.5	154.5	134.4	137.2	150.3	159.9
82.5°	49.5	59.4	74.7	78.8	78.2	89.7	133.4	122.2	125.8	177.8	188.0
85°	23.9	35.7	62.6	73.7	66.7	59.7	108.5	108.5	109.5	127.4	128.9
87.5°	8.9	16.0	42.1	58.4	46.6	35.7	73.7	76.9	85.5	88.1	90.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)