

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: P196849

Luminaire Tested: **NAV-AF-01-D-UNV-T4W-7030-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196849  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)  
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-T4W-7030-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(1) 70 CRI, 3000K, 615mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3847 lumens  
Efficiency: N/A  
Efficacy: 113.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G1

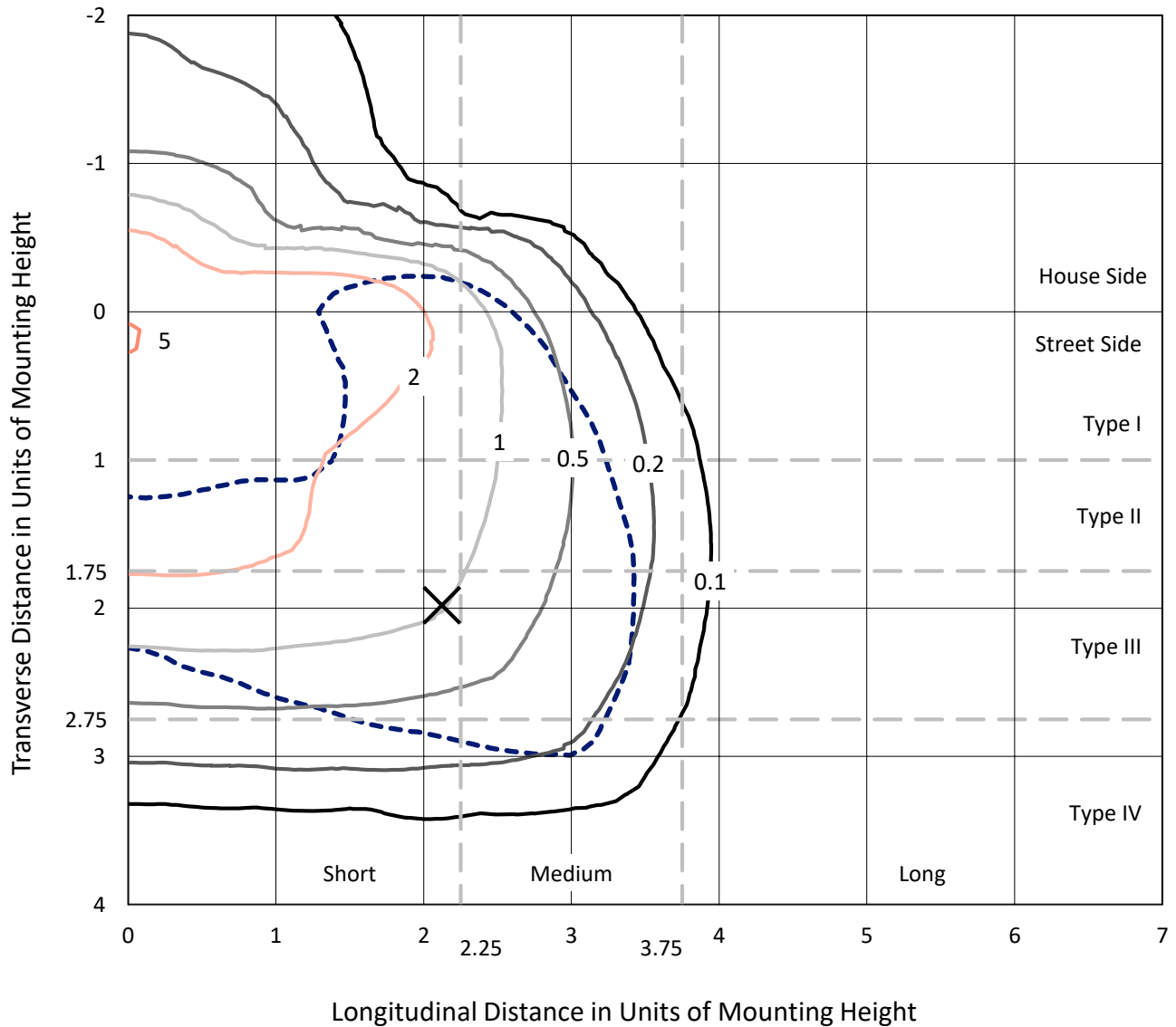
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

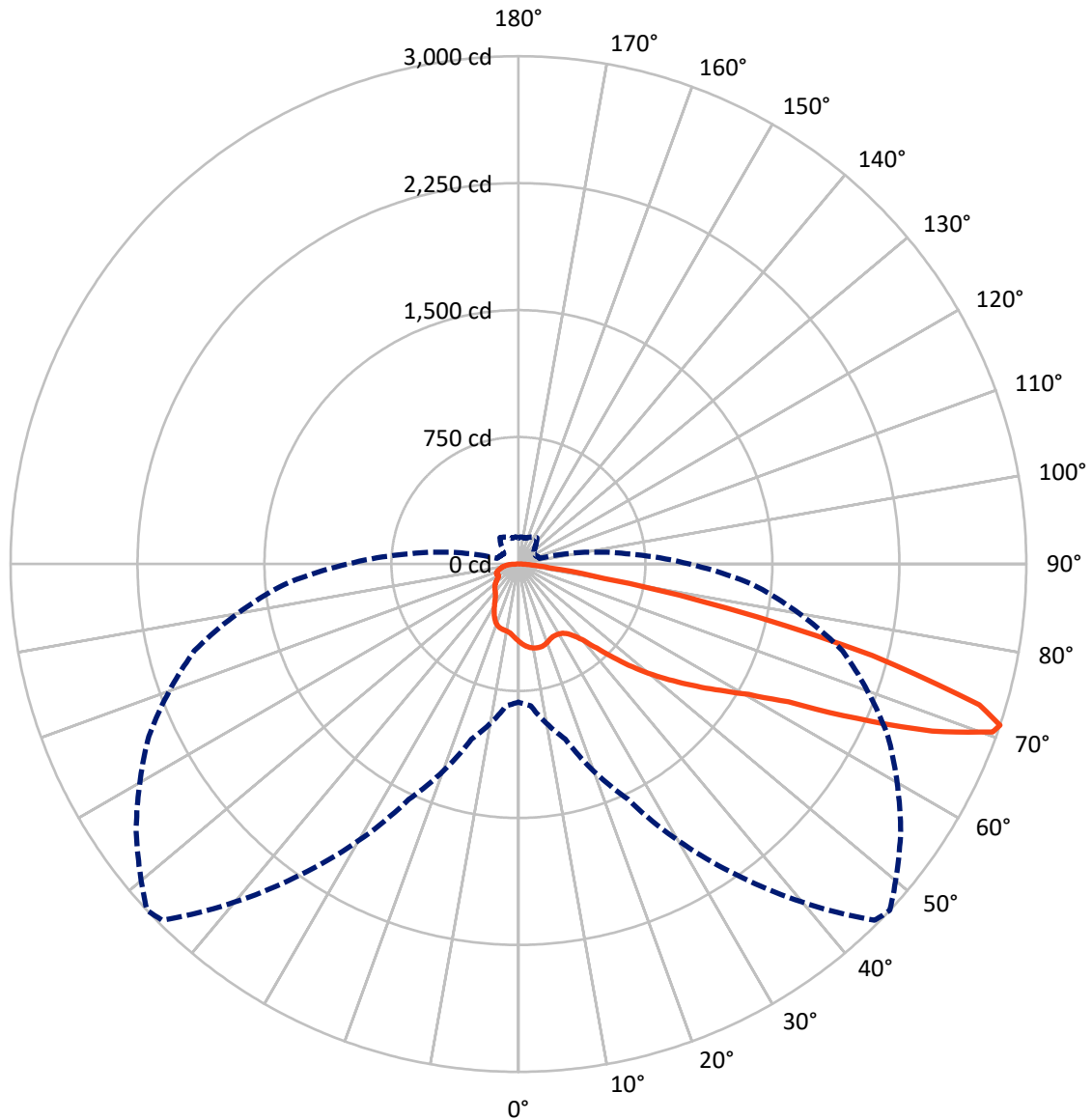
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.2 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral      - - - Horizontal Cone Through 71-Deg Vertical

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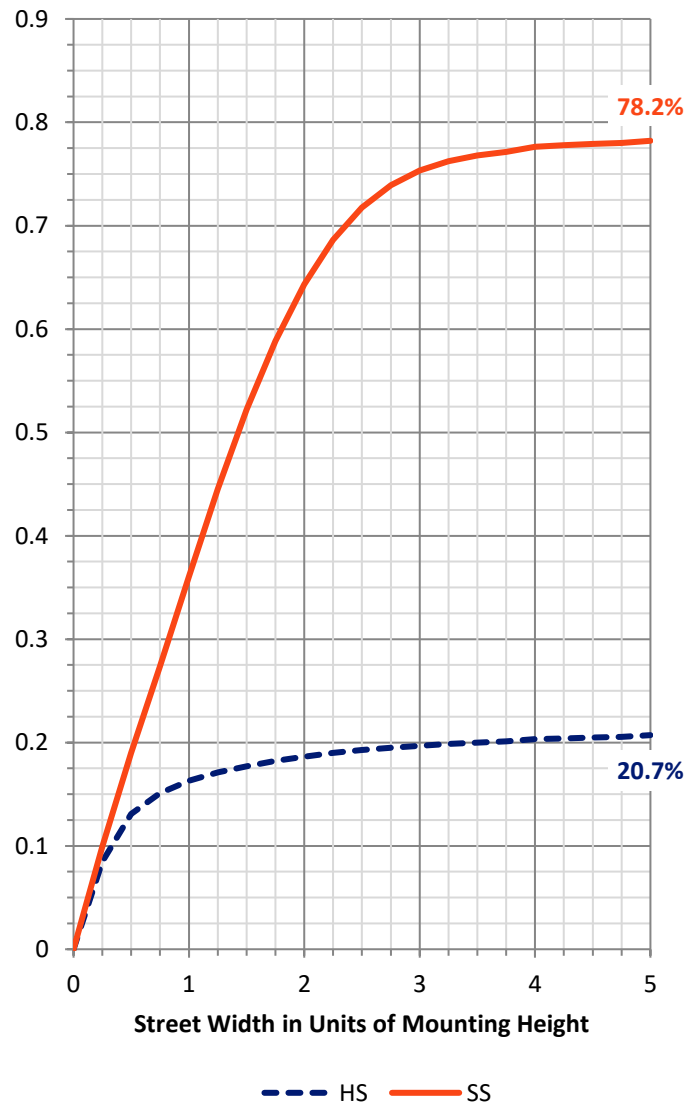
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	824.5	0.0	824.5
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	3022.5	0.0	3022.5
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	3847.0	0.0	3847.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.7	1.1
10°-20°	127.8	3.3
20°-30°	189.9	4.9
30°-40°	272.6	7.1
40°-50°	483.4	12.6
50°-60°	827.2	21.5
60°-70°	1174.3	30.5
70°-80°	643.2	16.7
80°-90°	84.9	2.2
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°	3847.0	100.0
0°-180°	3847.0	100.0



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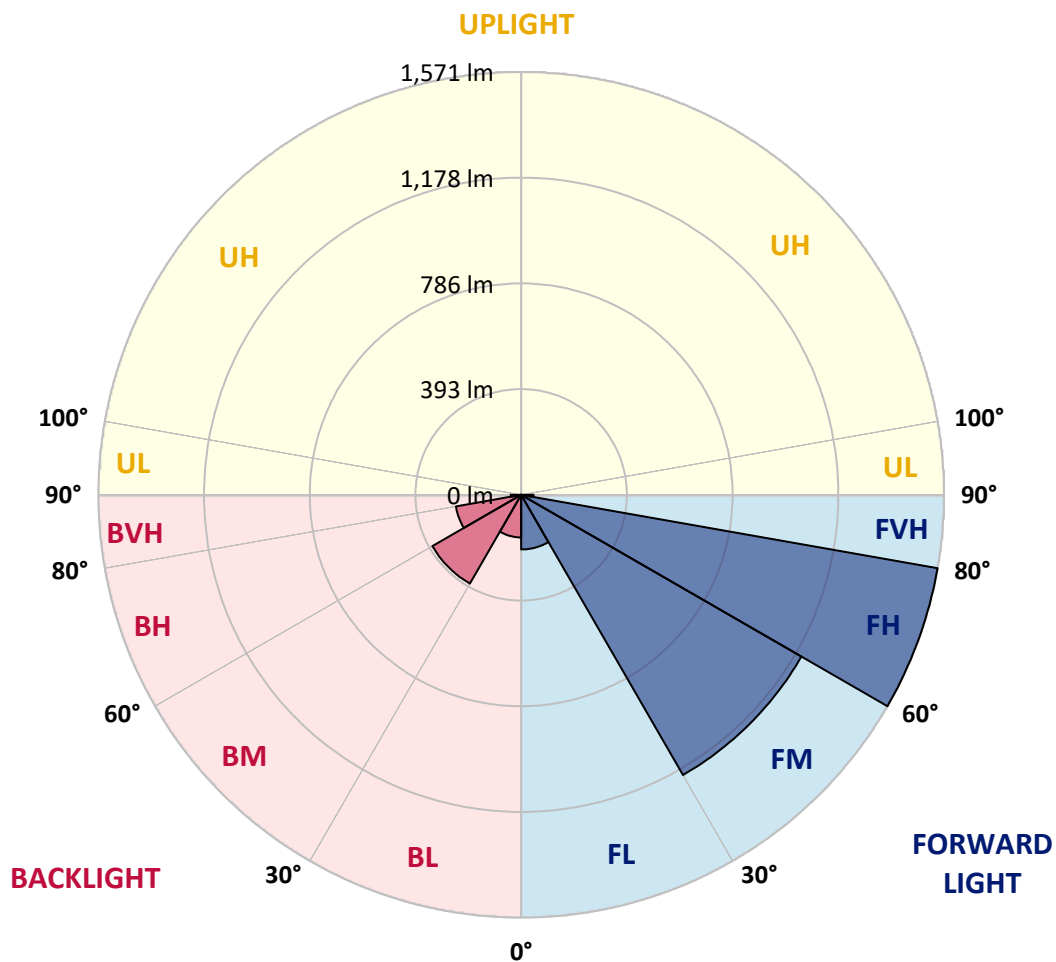
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	203.0	5.3			
FM	(30°-60°)	1202.3	31.3			
FH	(60°-80°)	1571.2	40.8			G1/1800
FVH	(80°-90°)	46.1	1.2			G1/100
BL	(0°-30°)	158.3	4.1	B1/500		
BM	(30°-60°)	380.9	9.9	B1/1000		
BH	(60°-80°)	246.3	6.4	B1/500		G1/500
BVH	(80°-90°)	38.8	1.0			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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	457.5	457.5	457.5	457.5	457.5	457.5	457.5	457.5	457.5	457.5	457.5
2.5°	485.4	484.3	484.9	483.2	478.9	474.4	474.4	469.7	464.7	459.8	454.2
5°	515.6	514.1	512.9	507.3	499.1	489.9	488.4	478.9	468.7	458.5	448.5
7.5°	540.8	539.2	535.5	525.5	513.5	499.9	498.1	485.6	472.2	458.1	444.0
10°	558.7	557.7	550.4	537.8	523.8	507.6	504.6	491.8	476.0	458.3	440.6
12.5°	568.7	567.2	558.5	543.4	527.0	510.6	507.6	495.4	477.1	457.7	437.0
15°	564.7	563.9	555.7	540.5	524.0	509.8	507.3	494.8	476.4	455.9	433.8
17.5°	547.7	549.5	543.0	528.0	514.6	504.6	501.8	490.1	472.6	451.8	428.9
20°	524.3	526.3	523.1	507.8	500.1	493.7	492.1	482.7	466.4	445.6	422.9
22.5°	499.4	501.1	501.4	487.2	484.7	482.2	481.0	474.1	461.0	441.7	418.8
25°	482.2	484.1	484.7	472.2	473.6	474.4	474.1	469.5	460.0	441.7	419.3
27.5°	477.7	478.7	478.1	466.6	469.5	473.6	473.9	473.0	464.0	446.8	426.3
30°	493.1	493.7	487.4	470.2	473.0	478.4	478.7	478.1	472.4	459.8	442.1
32.5°	560.0	559.4	538.0	493.7	484.1	486.1	486.9	491.3	491.8	481.2	464.7
35°	661.7	661.4	636.4	560.7	516.0	505.6	506.6	513.5	519.8	512.5	503.1
37.5°	773.5	774.3	759.2	656.4	584.9	541.3	540.3	545.5	556.6	559.2	560.4
40°	897.8	901.5	900.8	766.4	681.3	602.0	592.0	586.0	607.8	621.4	639.1
42.5°	1039.6	1038.6	1039.0	887.0	791.6	697.8	679.4	651.4	676.7	700.4	739.1
45°	1161.5	1165.5	1168.5	1015.4	914.9	807.2	788.6	737.7	760.3	795.7	855.1
47.5°	1284.2	1277.2	1282.7	1158.2	1052.2	932.2	908.0	839.4	860.6	910.4	1000.7
50°	1427.0	1423.7	1398.8	1344.8	1218.4	1058.8	1027.1	945.6	976.6	1043.1	1180.4
52.5°	1555.2	1537.8	1518.2	1491.4	1381.7	1187.0	1146.7	1056.1	1113.0	1195.4	1403.6
55°	1602.1	1590.3	1613.8	1648.6	1554.4	1317.5	1272.7	1184.9	1266.8	1369.7	1666.1
57.5°	1651.9	1656.0	1708.7	1779.3	1718.0	1457.0	1408.4	1337.6	1435.4	1564.6	1959.6
60°	1676.8	1692.8	1798.2	1930.6	1873.6	1609.7	1563.2	1512.8	1622.7	1780.1	2252.3
62.5°	1681.1	1702.5	1851.8	1983.7	2087.7	1843.9	1790.0	1735.4	1856.6	2018.1	2464.2
65°	1603.3	1636.1	1847.1	2049.0	2282.9	2235.0	2200.9	2105.7	2169.7	2227.8	2500.3
67.5°	1374.7	1410.5	1664.3	2022.1	2439.4	2640.9	2634.5	2493.9	2411.6	2308.8	2232.2
70°	1008.9	1037.9	1281.7	1728.7	2371.2	2959.5	2971.0	2745.3	2479.1	2136.8	1659.8
71°	815.9	840.9	1070.7	1534.8	2238.0	2976.0	2999.9	2756.6	2408.8	1981.5	1389.7
72.5°	507.8	521.8	711.1	1158.2	1927.2	2806.5	2846.9	2612.9	2187.4	1674.8	982.2
75°	191.7	197.2	263.8	510.8	1150.3	2108.3	2157.3	1974.8	1536.7	956.1	411.2
77.5°	102.9	105.7	130.9	212.4	461.0	1208.6	1271.4	1126.4	737.2	334.6	168.0
80°	69.1	70.8	90.4	125.8	212.0	460.2	512.5	452.3	276.0	190.9	119.6
82.5°	44.6	45.7	61.6	82.8	136.9	161.8	184.7	193.0	172.3	136.9	72.3
85°	29.4	30.1	40.7	52.9	84.7	79.8	81.7	107.0	117.5	90.2	36.9
87.5°	16.9	17.5	24.5	27.2	38.1	29.9	32.4	50.8	69.8	58.8	21.2
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	457.5	457.5	457.5	457.5	457.5	457.5	457.5	457.5	457.5	457.5	457.5
2.5°	451.8	449.7	445.2	442.5	441.3	440.8	440.4	441.3	441.3	440.8	439.8
5°	443.5	439.8	432.3	427.1	424.4	423.6	424.6	425.8	426.5	426.5	425.8
7.5°	437.6	432.0	422.1	414.8	410.6	409.4	412.1	416.6	419.5	421.0	421.3
10°	432.5	425.0	414.1	406.7	403.1	402.6	406.1	411.8	418.1	420.8	421.3
12.5°	428.1	419.5	407.6	400.7	398.1	399.4	404.2	409.4	416.6	420.5	420.8
15°	423.8	415.0	402.4	395.2	394.7	396.6	401.1	405.4	410.9	415.8	415.8
17.5°	418.8	409.4	396.2	389.4	389.4	391.1	394.1	396.4	399.9	404.6	404.4
20°	412.9	403.1	389.6	382.7	381.2	380.2	380.2	380.7	383.7	387.9	388.6
22.5°	408.4	398.4	384.1	375.8	369.0	362.5	359.8	358.7	361.5	365.5	366.4
25°	408.4	398.4	382.4	368.2	351.9	339.2	334.2	332.5	335.3	339.0	340.6
27.5°	415.0	405.2	386.4	361.5	331.3	311.4	305.2	303.8	306.4	309.4	310.9
30°	430.8	421.0	397.9	353.8	308.6	282.4	275.5	274.2	275.5	276.8	278.5
32.5°	456.9	448.7	416.6	346.8	285.7	256.3	247.8	245.9	246.3	246.6	248.0
35°	499.7	495.8	441.5	338.6	264.0	234.8	226.1	222.2	221.9	223.1	224.8
37.5°	565.0	567.2	473.6	326.5	246.1	219.6	210.9	206.9	205.0	207.4	209.4
40°	657.2	662.4	510.8	310.4	231.3	210.7	201.5	197.6	194.9	194.3	195.2
42.5°	777.1	775.6	548.7	289.6	215.3	204.7	194.9	190.9	186.5	180.8	179.5
45°	919.2	897.8	580.3	264.3	197.2	199.0	189.0	183.4	176.5	168.0	167.0
47.5°	1087.0	1027.9	599.9	237.1	180.3	191.4	182.3	173.7	163.6	158.1	157.4
50°	1289.1	1180.2	613.5	209.4	165.1	182.0	172.7	161.6	151.6	150.1	149.8
52.5°	1528.5	1360.0	630.5	184.5	153.1	169.8	163.4	151.9	143.9	144.5	144.5
55°	1783.0	1545.9	631.0	164.8	142.6	155.5	156.3	147.1	140.8	143.3	144.1
57.5°	2015.2	1708.5	581.4	150.8	132.6	144.3	154.0	148.8	144.1	152.9	153.6
60°	2217.5	1833.6	474.7	139.5	124.4	140.1	159.1	159.5	158.5	182.3	184.0
62.5°	2291.6	1834.9	337.1	129.7	119.9	142.6	169.6	170.2	170.2	192.2	195.5
65°	2187.9	1682.0	224.4	123.9	116.9	148.0	178.0	174.9	167.0	182.3	178.7
67.5°	1822.5	1309.4	164.0	120.1	112.6	148.4	185.5	177.2	164.0	177.0	171.0
70°	1252.5	833.2	137.3	116.7	107.7	141.8	189.4	176.5	159.5	165.1	157.2
71°	1008.3	664.9	130.3	115.4	105.7	138.1	190.0	175.5	157.4	160.8	153.6
72.5°	664.2	409.6	122.0	112.6	102.7	131.6	188.7	173.2	154.3	154.6	149.8
75°	262.0	169.8	109.7	106.4	94.3	121.2	183.2	168.5	148.6	143.5	141.6
77.5°	132.4	110.9	96.4	97.7	84.2	110.5	175.5	160.8	140.6	133.9	132.4
80°	96.7	84.2	82.5	84.7	73.1	100.0	165.7	150.3	130.3	137.3	134.4
82.5°	58.8	51.4	64.6	70.0	61.0	89.3	154.3	138.1	117.5	108.1	104.7
85°	28.0	30.1	46.7	51.6	45.2	71.3	141.1	124.7	102.4	88.5	90.0
87.5°	13.6	16.7	26.7	30.9	29.7	52.3	106.4	96.7	80.8	66.5	65.1
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)