

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: P197223

Luminaire Tested: **NAV-AF-03-D-UNV-T2-8030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197223  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)  
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-T2-8030  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14468 lumens  
Efficiency: N/A  
Efficacy: 87.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type II - Medium - Full Cutoff  
BUG Rating: B2 - U0 - G2

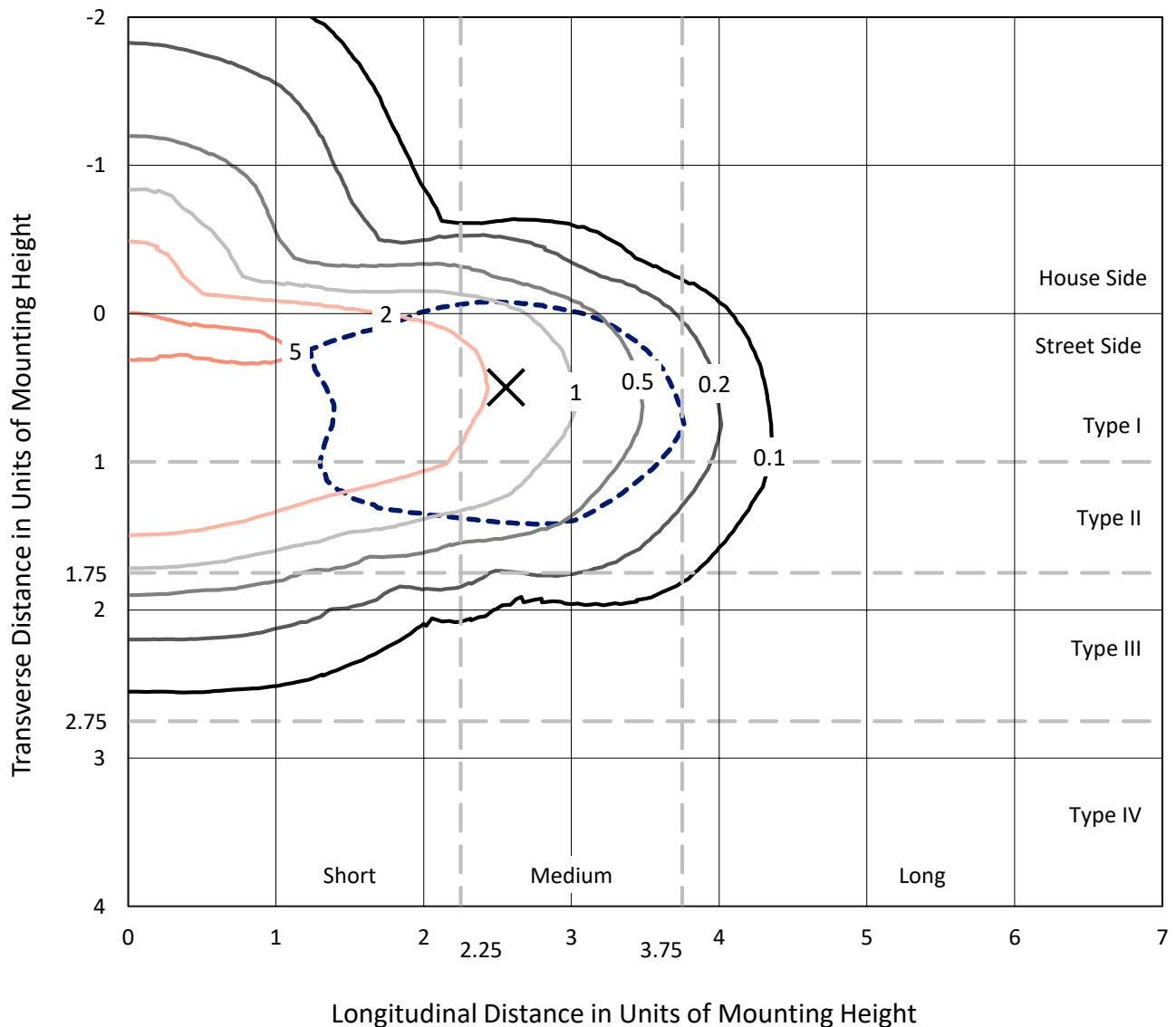
Input Watts (W): 166  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

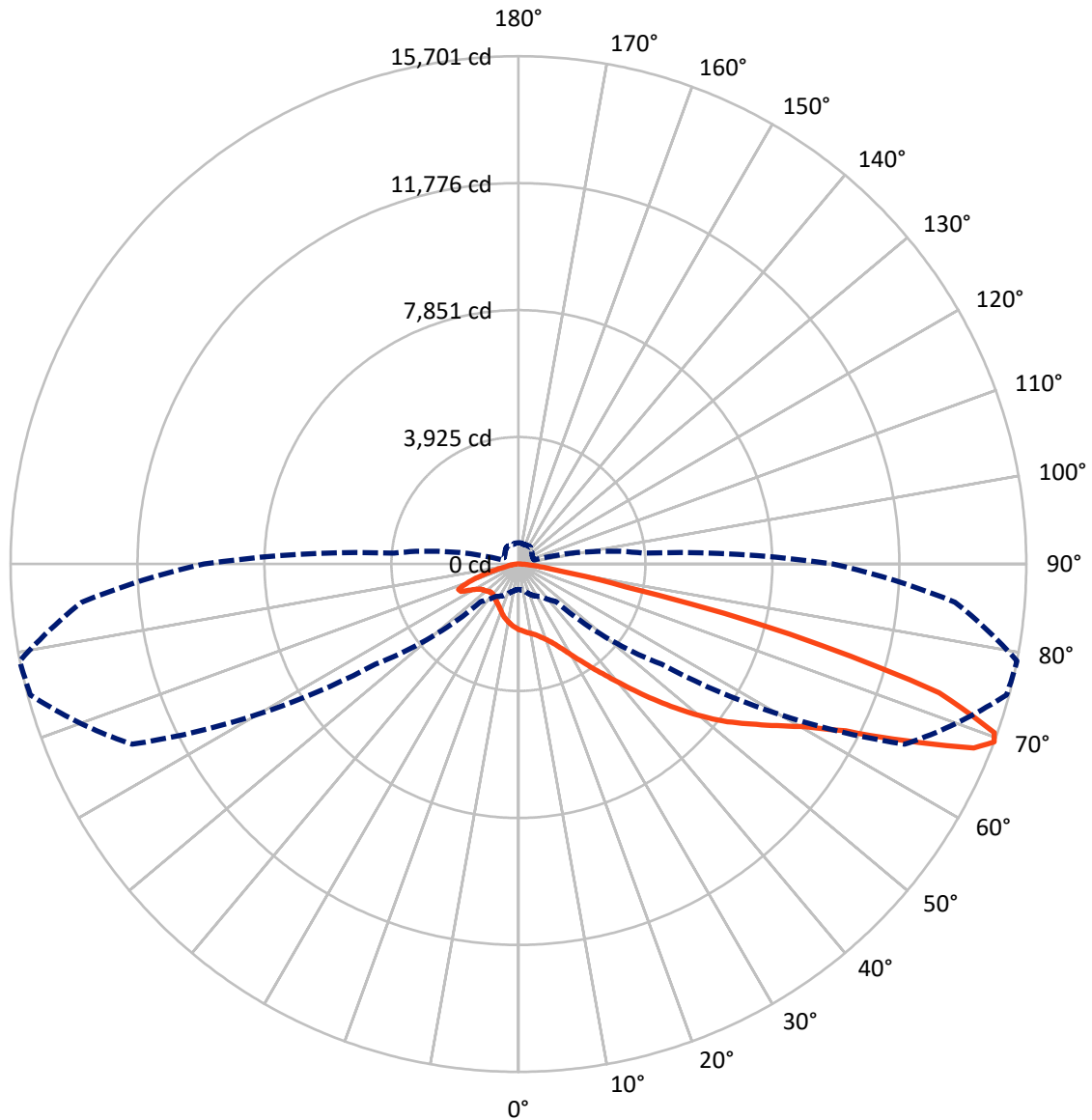
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.1 fc  
 Type II - Medium - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral      - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2721.7	0.0	2721.7
	% Fixture	18.8	0.0	18.8
<b>Street Side</b>	Lumens	11746.3	0.0	11746.3
	% Fixture	81.2	0.0	81.2
<b>Total</b>	Lumens	14468.0	0.0	14468.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	188.2	1.3
10°-20°	539.6	3.7
20°-30°	891.7	6.2
30°-40°	1443.9	10.0
40°-50°	2306.6	15.9
50°-60°	3303.3	22.8
60°-70°	3680.3	25.4
70°-80°	1841.2	12.7
80°-90°	273.2	1.9
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°	14468.0	100.0
0°-180°	14468.0	100.0



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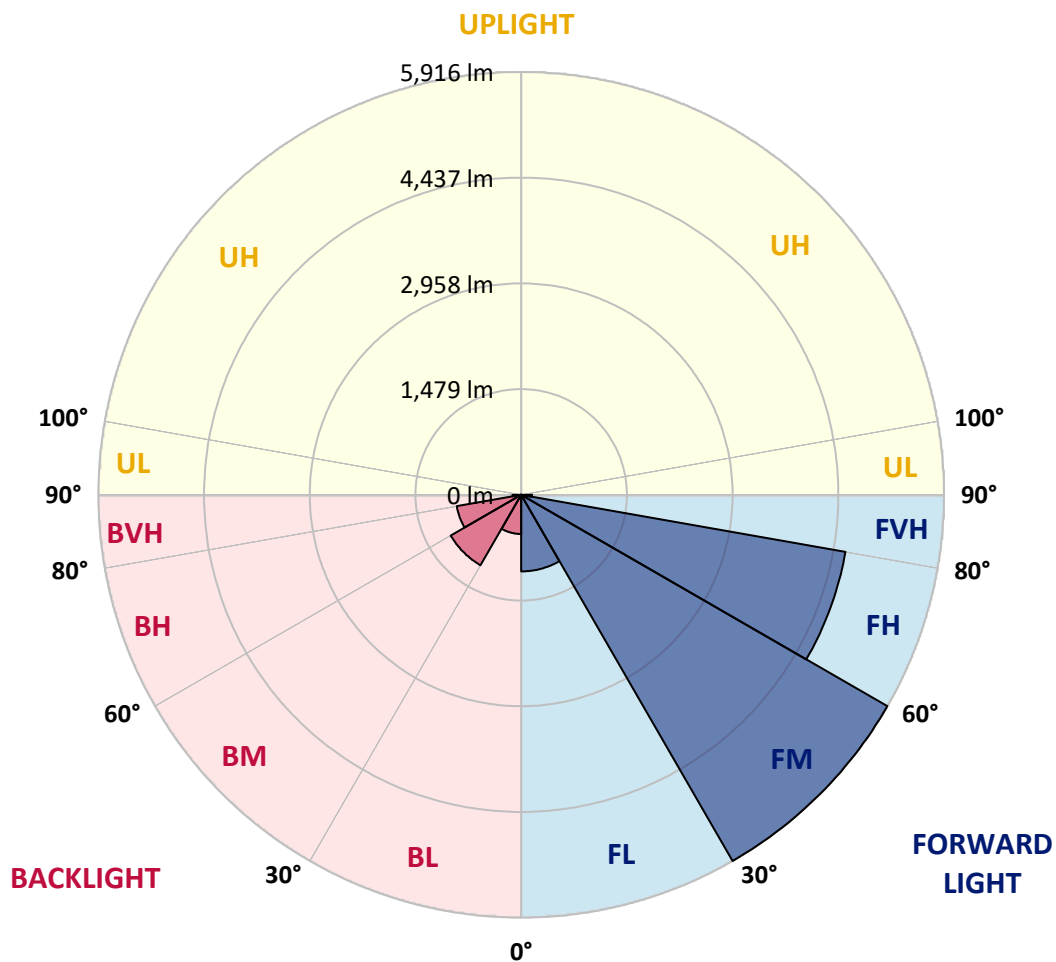
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1071.2	7.4			
FM (30°-60°)	5916.0	40.9			
FH (60°-80°)	4606.4	31.8			G2/5000
FVH (80°-90°)	152.7	1.1			G2/225
BL (0°-30°)	548.3	3.8	B2/1000		
BM (30°-60°)	1137.7	7.9	B2/2500		
BH (60°-80°)	915.1	6.3	B2/1000		G2/1000
BVH (80°-90°)	120.6	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	2030.3	2030.3	2030.3	2030.3	2030.3	2030.3	2030.3	2030.3	2030.3	2030.3	2030.3
2.5°	2229.1	2224.4	2223.4	2209.2	2201.6	2185.5	2147.7	2108.9	2072.9	2054.0	2034.1
5°	2415.6	2406.1	2401.4	2377.7	2356.9	2320.9	2261.3	2199.7	2135.4	2102.3	2062.5
7.5°	2528.2	2529.1	2529.1	2510.2	2489.4	2445.8	2370.1	2285.9	2190.3	2146.7	2084.3
10°	2537.7	2538.6	2552.8	2557.5	2562.3	2539.6	2469.5	2363.5	2240.4	2183.7	2102.3
12.5°	2444.0	2450.6	2474.2	2508.3	2556.6	2581.2	2550.9	2446.8	2304.8	2235.7	2136.3
15°	2318.1	2324.7	2355.0	2407.0	2484.7	2567.0	2609.6	2542.4	2389.1	2307.7	2186.5
17.5°	2256.5	2264.1	2284.9	2326.6	2402.3	2513.1	2640.8	2644.6	2488.4	2394.7	2246.1
20°	2227.2	2232.9	2259.4	2293.5	2351.2	2457.2	2643.7	2752.5	2606.8	2497.9	2319.0
22.5°	2294.4	2296.3	2309.5	2328.5	2367.3	2448.7	2641.8	2864.2	2754.4	2627.6	2412.7
25°	2491.3	2479.0	2469.5	2445.8	2455.3	2513.1	2672.1	2983.5	2943.7	2798.0	2537.7
27.5°	2724.1	2722.2	2697.6	2642.7	2607.7	2644.6	2758.2	3116.9	3175.6	3014.7	2701.4
30°	2983.5	2984.4	2958.9	2891.7	2820.7	2824.5	2895.5	3271.2	3453.0	3276.0	2903.0
32.5°	3255.1	3272.2	3224.8	3157.6	3071.5	3044.1	3092.3	3457.7	3773.8	3584.5	3136.8
35°	3579.8	3582.6	3530.6	3432.1	3346.0	3302.5	3346.9	3690.5	4143.9	3947.1	3421.7
37.5°	3916.8	3918.7	3864.7	3738.8	3630.0	3601.6	3650.8	3973.6	4535.8	4359.7	3756.8
40°	4192.2	4212.1	4169.5	4051.2	3941.4	3924.3	3995.3	4312.4	5036.5	4848.2	4155.3
42.5°	4504.6	4527.3	4476.2	4353.1	4266.0	4260.4	4371.1	4698.6	5534.4	5413.2	4606.8
45°	4856.7	4888.9	4817.9	4679.7	4605.8	4730.8	4737.4	5126.4	6108.0	6045.5	5115.1
47.5°	5241.0	5267.5	5209.7	5061.1	4980.7	5161.5	5096.1	5589.3	6728.0	6723.2	5665.0
50°	5537.2	5566.6	5572.3	5506.9	5422.7	5445.4	5489.9	6075.8	7346.1	7419.9	6233.9
52.5°	5483.3	5511.7	5639.5	5810.8	5946.1	5887.4	5941.4	6592.6	7943.3	8099.5	6774.4
55°	5047.9	5063.0	5302.5	5709.5	6285.9	6566.1	6569.9	7154.9	8511.2	8729.9	7287.4
57.5°	4263.2	4265.1	4576.5	5176.6	6088.1	7006.3	7561.9	7861.0	9103.8	9426.5	7923.4
60°	3016.6	3024.2	3386.7	4171.4	5379.2	6953.2	8628.6	9124.6	9790.0	10209.3	8743.1
62.5°	1790.8	1807.9	2081.4	2710.9	3995.3	6271.7	9259.0	11372.6	10800.9	11357.5	10055.0
65°	1165.2	1179.4	1343.1	1659.3	2360.7	4563.2	9051.7	13549.6	12713.9	13163.5	11940.5
67.5°	897.3	908.7	1037.4	1228.6	1448.2	2466.7	7237.2	14005.9	15042.3	15182.4	13531.7
69°	788.5	797.9	892.6	1076.2	1219.1	1632.8	5393.4	13177.7	15624.5	15701.1	13551.5
70°	730.7	738.3	827.3	986.3	1119.8	1303.4	4127.8	12216.0	15411.5	15607.4	13160.6
72.5°	602.0	608.6	672.0	794.1	915.3	928.6	1828.7	8920.1	12977.0	13603.6	11136.9
75°	502.6	506.4	548.0	637.0	741.1	739.2	934.2	5052.6	7918.7	8665.5	6876.6
77.5°	419.3	422.2	449.6	504.5	585.0	582.1	657.8	2180.8	3496.5	3373.5	2367.3
80°	370.1	372.0	386.2	400.4	451.5	448.7	487.5	1001.4	1422.6	1314.7	895.4
82.5°	281.1	284.9	356.8	363.5	350.2	337.9	339.8	583.1	728.8	663.5	480.8
85°	159.0	160.0	229.1	267.9	304.8	229.1	220.5	301.0	359.7	315.2	210.1
87.5°	71.0	73.8	109.8	126.8	164.7	134.4	125.9	127.8	155.2	128.7	83.3
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°	2030.3	2030.3	2030.3	2030.3	2030.3	2030.3	2030.3	2030.3	2030.3	2030.3	2030.3
2.5°	2015.2	1999.1	1961.2	1922.4	1883.6	1859.0	1833.4	1809.8	1800.3	1799.4	1781.4
5°	2023.7	1985.8	1899.7	1805.0	1715.1	1645.1	1586.4	1548.5	1511.6	1505.0	1488.9
7.5°	2026.5	1965.0	1824.9	1673.5	1536.2	1439.7	1381.0	1355.4	1337.5	1332.7	1327.0
10°	2025.6	1938.5	1741.6	1534.3	1378.2	1305.3	1283.5	1289.2	1296.8	1300.5	1300.5
12.5°	2040.7	1926.2	1658.3	1403.7	1275.9	1240.9	1257.9	1287.3	1310.0	1319.5	1321.4
15°	2068.2	1918.6	1566.5	1290.1	1204.0	1212.5	1254.2	1296.8	1328.9	1343.1	1346.9
17.5°	2102.3	1908.2	1460.5	1196.4	1162.3	1191.7	1245.6	1299.6	1338.4	1356.4	1359.2
20°	2140.1	1893.1	1350.7	1126.4	1125.4	1162.3	1216.3	1276.9	1318.5	1338.4	1337.5
22.5°	2191.2	1878.9	1248.5	1075.3	1084.7	1118.8	1163.3	1218.2	1257.0	1275.0	1271.2
25°	2259.4	1865.6	1156.7	1029.8	1038.3	1061.1	1092.3	1133.9	1161.4	1170.9	1164.2
27.5°	2351.2	1855.2	1084.7	988.2	987.2	997.6	1016.6	1039.3	1052.5	1049.7	1039.3
30°	2463.8	1844.8	1031.7	951.3	938.0	937.1	945.6	958.8	967.4	950.3	941.8
32.5°	2589.7	1826.8	984.4	919.1	895.4	886.9	890.7	908.7	943.7	926.7	920.0
35°	2738.3	1806.0	937.1	884.1	866.1	850.0	852.8	891.6	997.6	985.3	978.7
37.5°	2917.2	1787.1	893.5	846.2	845.3	825.4	823.5	869.9	1011.8	985.3	979.7
40°	3132.1	1783.3	854.7	804.6	819.7	812.1	805.5	833.9	933.3	879.3	868.9
42.5°	3391.4	1800.3	826.3	764.8	790.4	808.3	796.0	802.7	843.4	795.1	786.6
45°	3694.3	1846.7	805.5	729.8	759.1	805.5	791.3	785.6	792.2	765.7	760.1
47.5°	4047.4	1929.0	791.3	700.4	729.8	797.9	789.4	778.1	775.2	760.1	756.3
50°	4425.1	2039.8	781.8	673.9	703.3	784.7	788.5	772.4	767.6	761.0	759.1
52.5°	4799.9	2160.0	770.5	651.2	681.5	768.6	789.4	766.7	760.1	756.3	754.4
55°	5172.8	2284.9	749.7	631.3	665.4	749.7	788.5	759.1	751.5	751.5	751.5
57.5°	5656.5	2475.2	722.2	615.2	644.6	725.0	776.2	750.6	740.2	741.1	742.1
60°	6355.0	2794.2	691.9	597.3	617.1	696.6	757.2	735.5	723.2	726.9	727.9
62.5°	7522.1	3351.7	650.3	571.7	588.7	666.4	732.6	714.6	703.3	709.9	710.8
65°	9078.2	4026.6	595.4	539.5	559.4	632.3	701.4	690.0	677.7	693.8	692.9
67.5°	10027.6	4224.4	537.6	505.4	531.0	596.3	662.6	657.8	649.3	677.7	675.8
69°	9716.2	3866.6	504.5	483.7	511.1	571.7	638.0	636.1	629.4	656.9	655.0
70°	9232.5	3532.5	483.7	469.5	500.7	556.6	621.9	621.9	615.2	638.9	634.2
72.5°	7416.1	2620.0	435.4	433.5	464.7	514.9	578.3	583.1	579.3	587.8	583.1
75°	4354.1	1578.8	388.1	393.8	421.2	470.4	530.1	533.8	530.1	529.1	530.1
77.5°	1509.7	708.0	342.6	351.2	374.8	425.0	477.1	484.6	478.9	472.3	474.2
80°	590.6	411.7	293.4	305.7	325.6	373.9	424.0	428.8	420.3	419.3	411.7
82.5°	355.0	250.8	228.1	248.0	272.6	324.7	366.3	364.4	357.8	396.6	347.4
85°	154.3	139.1	166.6	186.5	198.8	243.3	309.5	301.0	284.9	250.8	245.2
87.5°	62.5	71.9	91.8	110.7	119.3	157.1	212.0	204.5	207.3	170.4	169.4
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)