

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: P197219

Luminaire Tested: **NAV-AF-05-D-UNV-T2-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197219
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-05-D-UNV-T2-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19404 lumens
Efficiency: N/A
Efficacy: 92.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G3

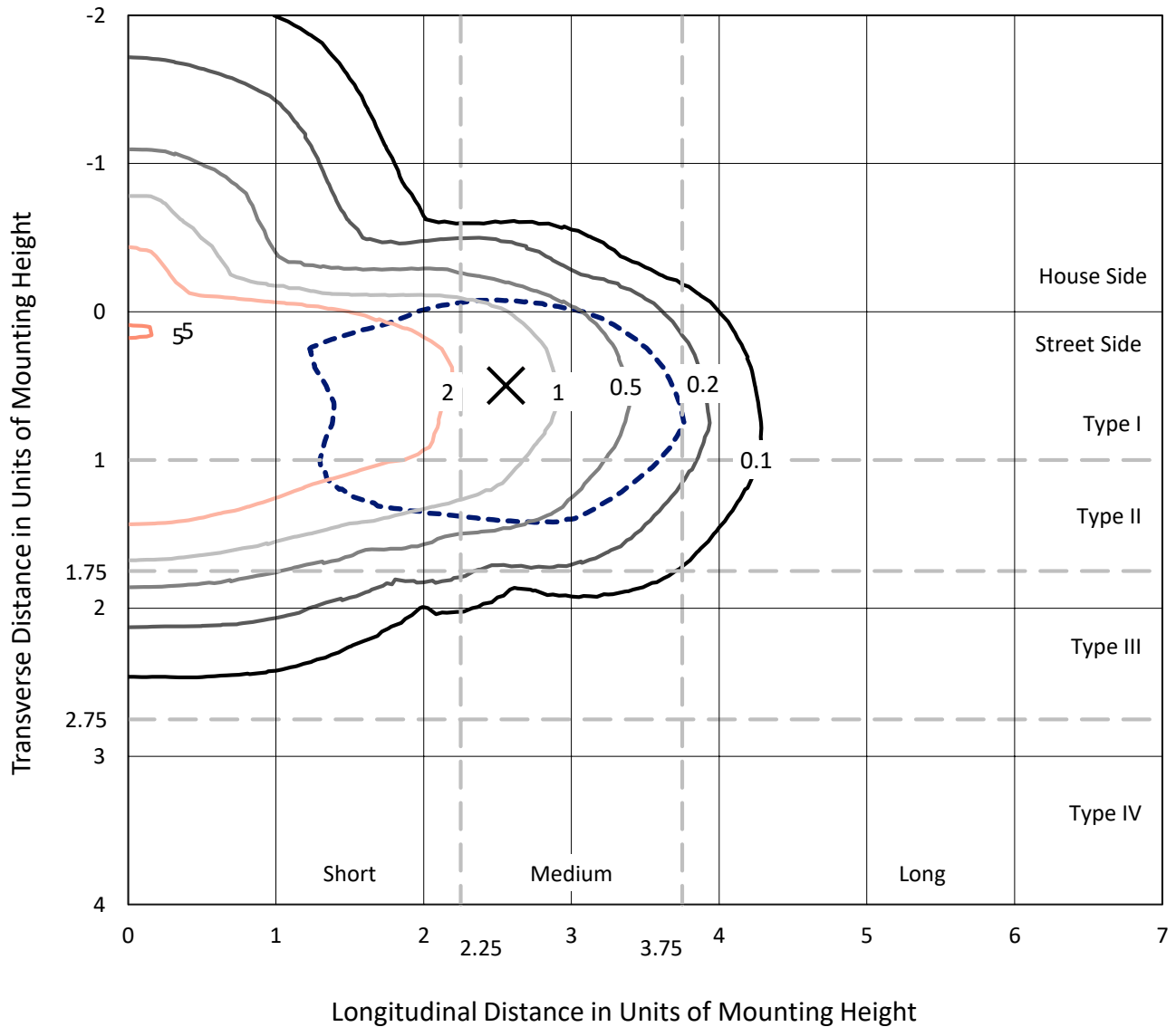
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

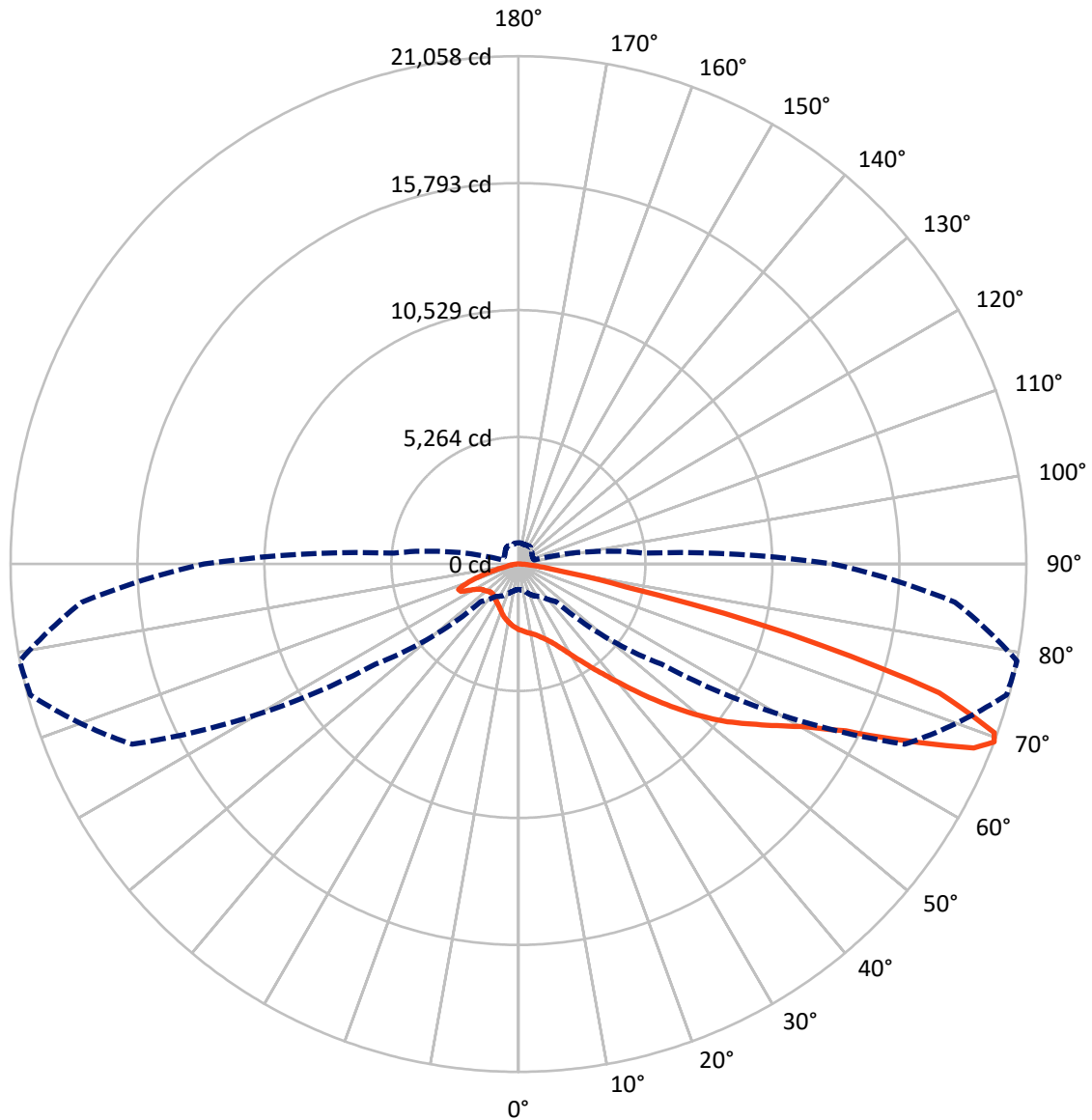
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.3 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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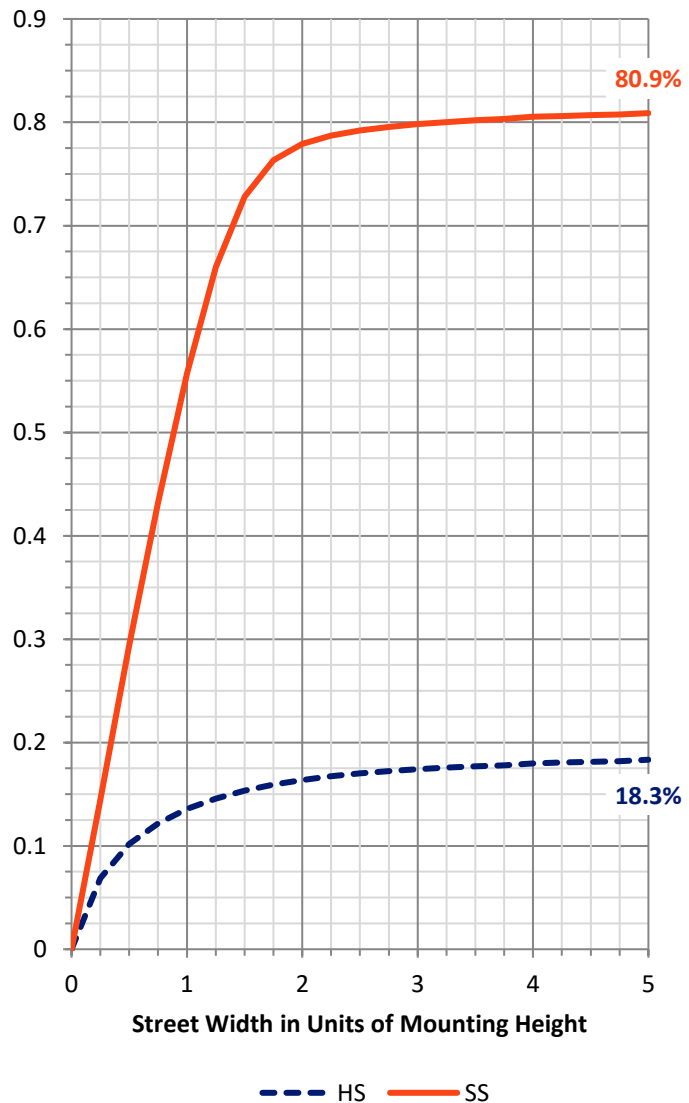
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3650.2	0.0	3650.2
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	15753.8	0.0	15753.8
	% Fixture	81.2	0.0	81.2
Total	Lumens	19404.0	0.0	19404.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.4	1.3
10°-20°	723.7	3.7
20°-30°	1195.9	6.2
30°-40°	1936.5	10.0
40°-50°	3093.5	15.9
50°-60°	4430.2	22.8
60°-70°	4935.9	25.4
70°-80°	2469.4	12.7
80°-90°	366.5	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°	19404.0	100.0
0°-180°	19404.0	100.0

Coefficient of Utilization



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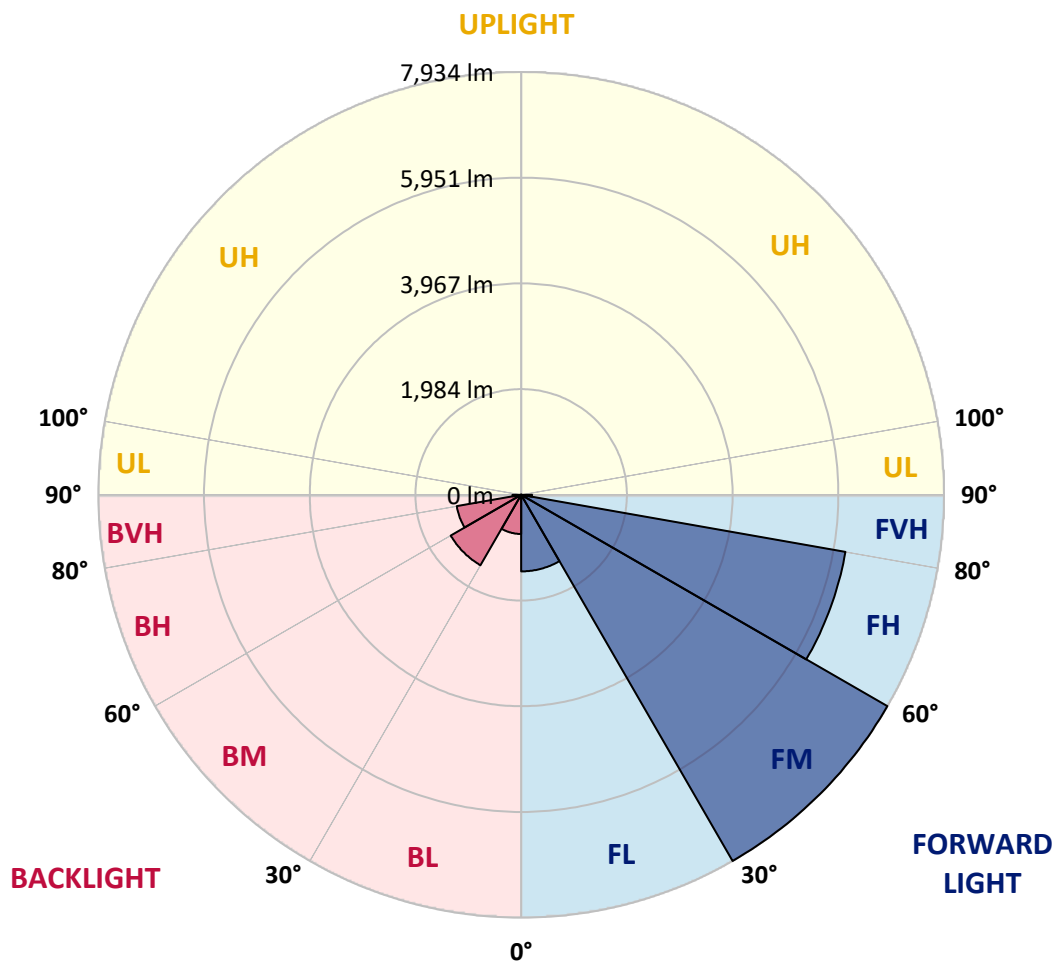
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1436.7	7.4			
FM	(30°-60°)	7934.3	40.9			
FH	(60°-80°)	6178.0	31.8			G3/7500
FVH	(80°-90°)	204.8	1.1			G2/225
BL	(0°-30°)	735.3	3.8	B2/1000		
BM	(30°-60°)	1525.9	7.9	B2/2500		
BH	(60°-80°)	1227.3	6.3	B3/2500		G3/2500
BVH	(80°-90°)	161.7	0.8			G2/225
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°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	2723.0	2723.0	2723.0	2723.0	2723.0	2723.0	2723.0	2723.0	2723.0	2723.0	2723.0
2.5°	2989.6	2983.2	2982.0	2962.9	2952.8	2931.2	2880.4	2828.4	2780.1	2754.7	2728.1
5°	3239.7	3227.0	3220.6	3188.9	3161.0	3112.7	3032.7	2950.2	2863.9	2819.5	2766.2
7.5°	3390.7	3392.0	3392.0	3366.6	3338.7	3280.3	3178.7	3065.7	2937.5	2879.1	2795.4
10°	3403.4	3404.7	3423.7	3430.1	3436.4	3406.0	3312.0	3169.8	3004.8	2928.6	2819.5
12.5°	3277.7	3286.6	3318.4	3364.1	3428.8	3461.8	3421.2	3281.6	3091.1	2998.5	2865.2
15°	3108.9	3117.8	3158.4	3228.2	3332.3	3442.8	3499.9	3409.8	3204.1	3094.9	2932.5
17.5°	3026.4	3036.6	3064.5	3120.3	3221.9	3370.4	3541.8	3546.9	3337.4	3211.7	3012.4
20°	2987.0	2994.7	3030.2	3075.9	3153.3	3295.5	3545.6	3691.6	3496.1	3350.1	3110.2
22.5°	3077.2	3079.7	3097.5	3122.9	3174.9	3284.1	3543.1	3841.4	3694.1	3524.0	3235.9
25°	3341.2	3324.7	3312.0	3280.3	3293.0	3370.4	3583.7	4001.3	3948.0	3752.5	3403.4
27.5°	3653.5	3651.0	3618.0	3544.3	3497.4	3546.9	3699.2	4180.3	4259.0	4043.2	3623.0
30°	4001.3	4002.6	3968.3	3878.2	3783.0	3788.1	3883.3	4387.3	4631.0	4393.6	3893.4
32.5°	4365.7	4388.5	4325.1	4234.9	4119.4	4082.6	4147.3	4637.3	5061.3	4807.4	4207.0
35°	4801.1	4804.9	4735.1	4603.1	4487.5	4429.2	4488.8	4949.6	5557.7	5293.7	4589.1
37.5°	5253.0	5255.6	5183.2	5014.4	4868.4	4830.3	4896.3	5329.2	6083.3	5847.1	5038.5
40°	5622.4	5649.1	5592.0	5433.3	5286.0	5263.2	5358.4	5783.7	6754.8	6502.2	5572.9
42.5°	6041.4	6071.8	6003.3	5838.3	5721.5	5713.8	5862.4	6301.6	7422.5	7260.0	6178.5
45°	6513.6	6556.8	6461.6	6276.2	6177.2	6344.8	6353.7	6875.4	8191.8	8108.0	6860.2
47.5°	7029.0	7064.6	6987.1	6787.8	6679.9	6922.4	6834.8	7496.2	9023.3	9017.0	7597.7
50°	7426.3	7465.7	7473.3	7385.7	7272.7	7303.2	7362.9	8148.7	9852.3	9951.3	8360.7
52.5°	7354.0	7392.1	7563.5	7793.2	7974.8	7896.0	7968.4	8841.8	10653.3	10862.8	9085.5
55°	6770.0	6790.3	7111.5	7657.4	8430.5	8806.3	8811.3	9595.9	11415.0	11708.2	9773.6
57.5°	5717.7	5720.2	6137.8	6942.7	8165.2	9396.6	10141.7	10542.9	12209.7	12642.6	10626.7
60°	4045.8	4055.9	4542.1	5594.5	7214.3	9325.5	11572.4	12237.6	13130.0	13692.4	11726.0
62.5°	2401.8	2424.7	2791.5	3635.7	5358.4	8411.5	12417.9	15252.6	14485.8	15232.3	13485.5
65°	1562.7	1581.7	1801.4	2225.4	3166.0	6120.1	12139.9	18172.3	17051.4	17654.4	16014.3
67.5°	1203.4	1218.7	1391.3	1647.8	1942.3	3308.2	9706.3	18784.2	20174.3	20362.2	18148.2
69°	1057.5	1070.2	1197.1	1443.4	1635.1	2189.8	7233.4	17673.4	20955.0	21057.8	18174.9
70°	980.0	990.2	1109.5	1322.8	1501.8	1748.0	5536.1	16383.7	20669.4	20932.1	17650.6
72.5°	807.4	816.3	901.3	1065.1	1227.6	1245.3	2452.6	11963.4	17404.3	18244.7	14936.5
75°	674.1	679.2	735.0	854.3	994.0	991.4	1253.0	6776.4	10620.3	11621.9	9222.6
77.5°	562.4	566.2	603.0	676.6	784.5	780.7	882.3	2924.8	4689.4	4524.4	3174.9
80°	496.4	498.9	517.9	537.0	605.5	601.7	653.8	1343.1	1908.0	1763.3	1200.9
82.5°	377.0	382.1	478.6	487.5	469.7	453.2	455.7	782.0	977.5	889.9	644.9
85°	213.3	214.5	307.2	359.3	408.8	307.2	295.8	403.7	482.4	422.7	281.8
87.5°	95.2	99.0	147.3	170.1	220.9	180.3	168.8	171.4	208.2	172.6	111.7
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°	2723.0	2723.0	2723.0	2723.0	2723.0	2723.0	2723.0	2723.0	2723.0	2723.0	2723.0
2.5°	2702.7	2681.1	2630.3	2578.3	2526.2	2493.2	2458.9	2427.2	2414.5	2413.2	2389.1
5°	2714.1	2663.3	2547.8	2420.9	2300.3	2206.3	2127.6	2076.8	2027.3	2018.4	1996.9
7.5°	2717.9	2635.4	2447.5	2244.4	2060.3	1930.9	1852.1	1817.9	1793.7	1787.4	1779.8
10°	2716.6	2599.9	2335.8	2057.8	1848.3	1750.6	1721.4	1729.0	1739.2	1744.2	1744.2
12.5°	2737.0	2583.4	2224.1	1882.6	1711.2	1664.3	1687.1	1726.5	1756.9	1769.6	1772.2
15°	2773.8	2573.2	2101.0	1730.3	1614.8	1626.2	1682.0	1739.2	1782.3	1801.4	1806.4
17.5°	2819.5	2559.2	1958.8	1604.6	1558.9	1598.3	1670.6	1743.0	1795.0	1819.1	1822.9
20°	2870.3	2538.9	1811.5	1510.7	1509.4	1558.9	1631.3	1712.5	1768.4	1795.0	1793.7
22.5°	2938.8	2519.9	1674.4	1442.1	1454.8	1500.5	1560.2	1633.8	1685.8	1710.0	1704.9
25°	3030.2	2502.1	1551.3	1381.2	1392.6	1423.1	1465.0	1520.8	1557.6	1570.3	1561.4
27.5°	3153.3	2488.1	1454.8	1325.3	1324.0	1338.0	1363.4	1393.9	1411.6	1407.8	1393.9
30°	3304.4	2474.2	1383.7	1275.8	1258.0	1256.8	1268.2	1286.0	1297.4	1274.5	1263.1
32.5°	3473.2	2450.1	1320.2	1232.6	1200.9	1189.5	1194.6	1218.7	1265.7	1242.8	1233.9
35°	3672.6	2422.1	1256.8	1185.7	1161.6	1140.0	1143.8	1195.8	1338.0	1321.5	1312.6
37.5°	3912.5	2396.7	1198.4	1134.9	1133.6	1107.0	1104.4	1166.6	1357.1	1321.5	1313.9
40°	4200.6	2391.7	1146.3	1079.0	1099.4	1089.2	1080.3	1118.4	1251.7	1179.3	1165.4
42.5°	4548.5	2414.5	1108.2	1025.7	1060.0	1084.1	1067.6	1076.5	1131.1	1066.3	1054.9
45°	4954.7	2476.7	1080.3	978.8	1018.1	1080.3	1061.3	1053.7	1062.5	1027.0	1019.4
47.5°	5428.2	2587.2	1061.3	939.4	978.8	1070.2	1058.7	1043.5	1039.7	1019.4	1014.3
50°	5934.7	2735.7	1048.6	903.9	943.2	1052.4	1057.5	1035.9	1029.5	1020.6	1018.1
52.5°	6437.4	2896.9	1033.3	873.4	914.0	1030.8	1058.7	1028.3	1019.4	1014.3	1011.8
55°	6937.6	3064.5	1005.4	846.7	892.4	1005.4	1057.5	1018.1	1008.0	1008.0	1008.0
57.5°	7586.3	3319.6	968.6	825.1	864.5	972.4	1041.0	1006.7	992.7	994.0	995.3
60°	8523.2	3747.4	928.0	801.0	827.7	934.3	1015.6	986.4	969.9	974.9	976.2
62.5°	10088.4	4495.2	872.1	766.8	789.6	893.7	982.6	958.4	943.2	952.1	953.4
65°	12175.4	5400.3	798.5	723.6	750.3	848.0	940.7	925.4	908.9	930.5	929.2
67.5°	13448.7	5665.6	721.1	677.9	712.2	799.8	888.6	882.3	870.9	908.9	906.4
69°	13031.0	5185.7	676.6	648.7	685.5	766.8	855.6	853.1	844.2	881.0	878.5
70°	12382.3	4737.6	648.7	629.7	671.5	746.4	834.0	834.0	825.1	856.9	850.5
72.5°	9946.2	3513.9	584.0	581.4	623.3	690.6	775.6	782.0	776.9	788.3	782.0
75°	5839.5	2117.5	520.5	528.1	564.9	630.9	710.9	716.0	710.9	709.6	710.9
77.5°	2024.8	949.6	459.5	471.0	502.7	570.0	639.8	650.0	642.3	633.5	636.0
80°	792.1	552.2	393.5	410.0	436.7	501.4	568.7	575.1	563.6	562.4	552.2
82.5°	476.0	336.4	305.9	332.6	365.6	435.4	491.3	488.7	479.9	531.9	465.9
85°	206.9	186.6	223.4	250.1	266.6	326.3	415.1	403.7	382.1	336.4	328.8
87.5°	83.8	96.5	123.1	148.5	160.0	210.7	284.4	274.2	278.0	228.5	227.2
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)