

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: P195779

Luminaire Tested: **NAV-AF-05-D-UNV-T2-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195779
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-T2-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23780 lumens
Efficiency: N/A
Efficacy: 113.2 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 - G4

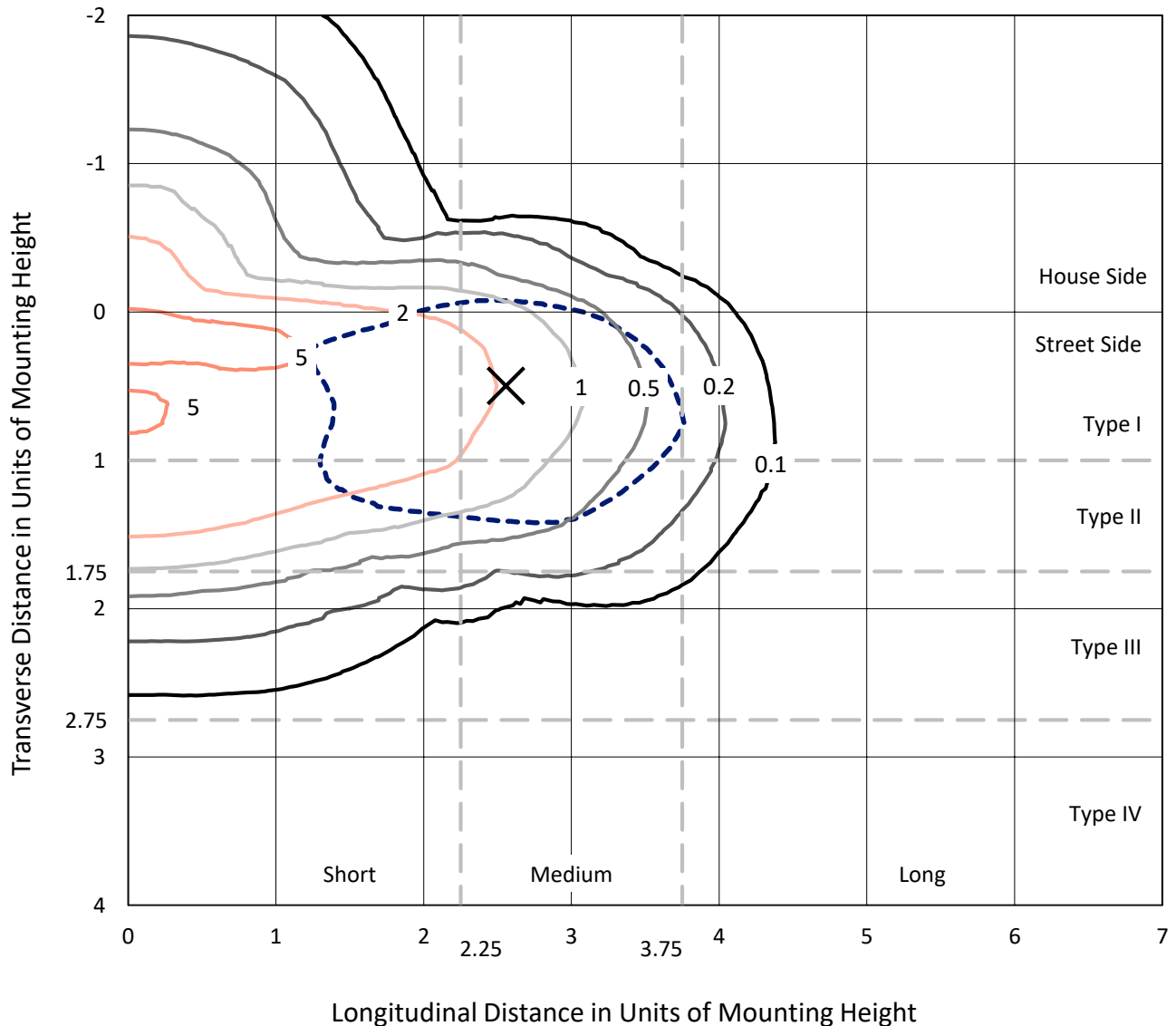
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

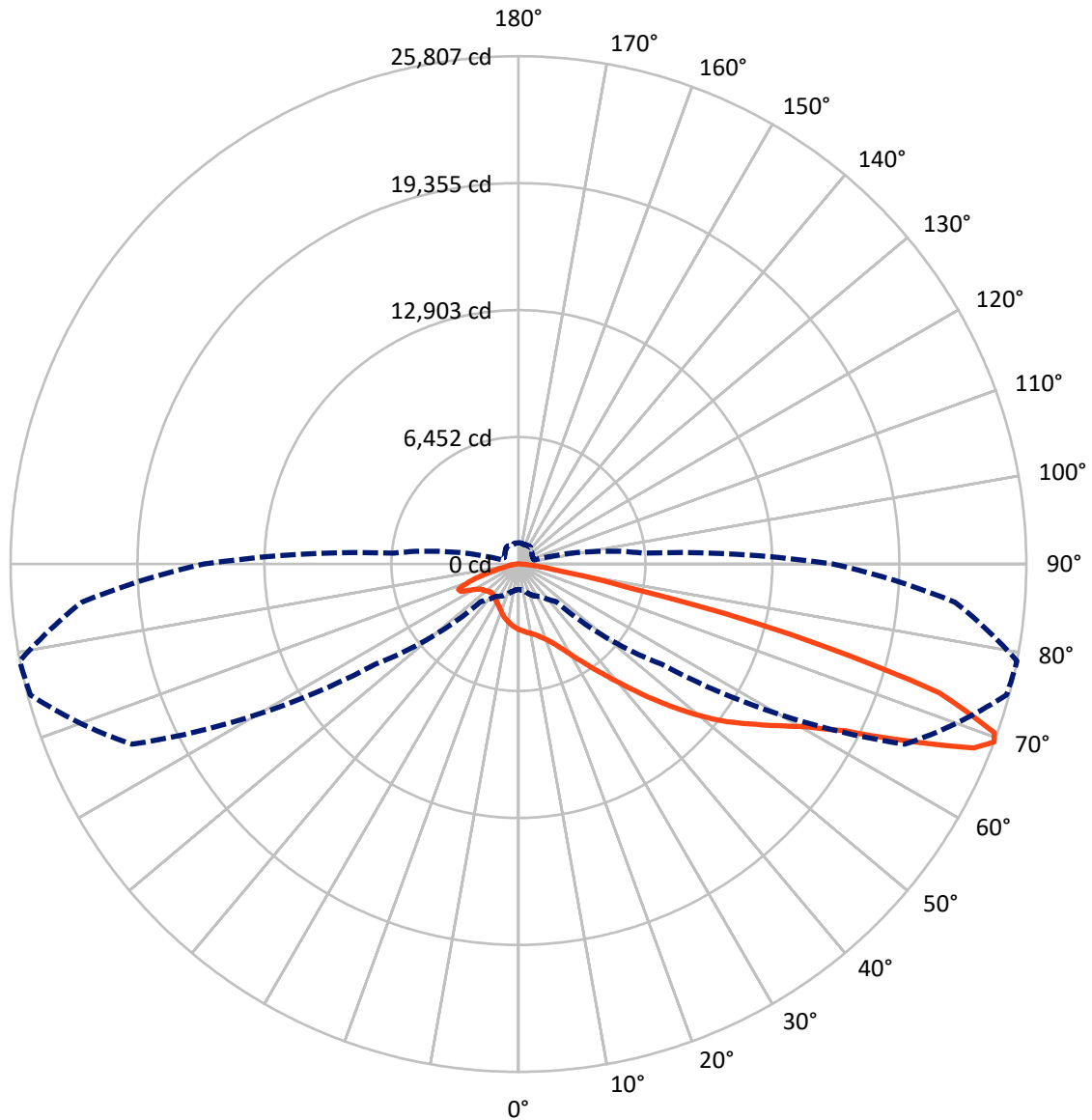
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.5 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	4473.4	0.0	4473.4
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	19306.5	0.0	19306.5
	% Fixture	81.2	0.0	81.2
Total	Lumens	23780.0	0.0	23780.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	309.4	1.3
10°-20°	886.9	3.7
20°-30°	1465.6	6.2
30°-40°	2373.2	10.0
40°-50°	3791.1	15.9
50°-60°	5429.3	22.8
60°-70°	6049.1	25.4
70°-80°	3026.3	12.7
80°-90°	449.1	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°	23780.0	100.0
0°-180°	23780.0	100.0



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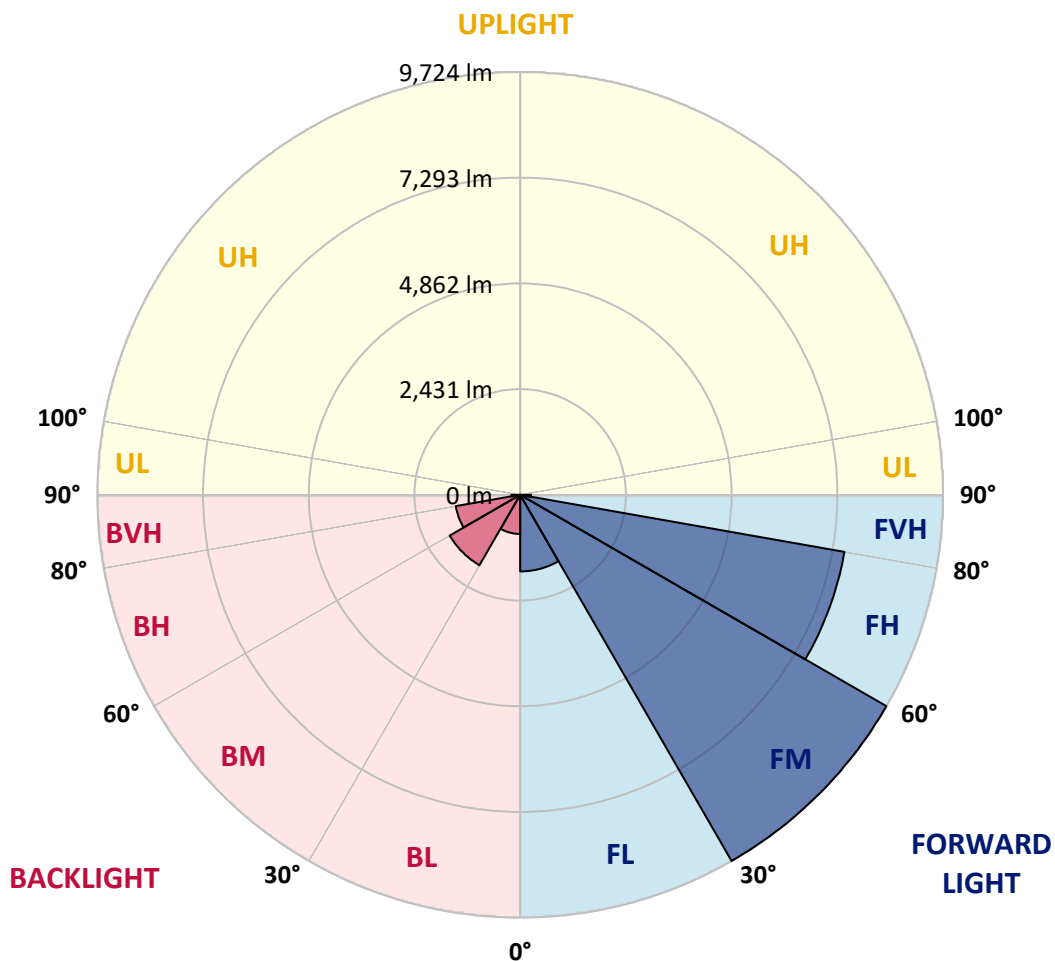
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1760.7	7.4			
FM (30°-60°)	9723.7	40.9			
FH (60°-80°)	7571.2	31.8			G4/12000
FVH (80°-90°)	250.9	1.1			G3/500
BL (0°-30°)	901.2	3.8	B2/1000		
BM (30°-60°)	1870.0	7.9	B2/2500		
BH (60°-80°)	1504.1	6.3	B3/2500		G3/2500
BVH (80°-90°)	198.2	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-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	3337.1	3337.1	3337.1	3337.1	3337.1	3337.1	3337.1	3337.1	3337.1	3337.1	3337.1
2.5°	3663.8	3656.0	3654.5	3631.1	3618.7	3592.2	3530.0	3466.2	3407.1	3376.0	3343.3
5°	3970.3	3954.7	3946.9	3908.0	3873.8	3814.7	3716.7	3615.6	3509.8	3455.3	3390.0
7.5°	4155.4	4157.0	4157.0	4125.9	4091.6	4020.1	3895.6	3757.1	3600.0	3528.4	3425.8
10°	4171.0	4172.5	4195.9	4203.6	4211.4	4174.1	4059.0	3884.7	3682.5	3589.1	3455.3
12.5°	4016.9	4027.8	4066.7	4122.7	4202.1	4242.5	4192.7	4021.6	3788.3	3674.7	3511.3
15°	3810.0	3820.9	3870.7	3956.3	4083.8	4219.2	4289.2	4178.7	3926.7	3792.9	3593.8
17.5°	3708.9	3721.4	3755.6	3824.0	3948.5	4130.5	4340.5	4346.8	4090.1	3936.0	3691.8
20°	3660.7	3670.0	3713.6	3769.6	3864.5	4038.7	4345.2	4524.1	4284.5	4105.6	3811.6
22.5°	3771.1	3774.3	3796.0	3827.1	3890.9	4024.7	4342.1	4707.7	4527.2	4318.8	3965.6
25°	4094.7	4074.5	4059.0	4020.1	4035.6	4130.5	4391.9	4903.7	4838.4	4598.8	4171.0
27.5°	4477.5	4474.3	4433.9	4343.7	4286.1	4346.8	4533.5	5123.1	5219.5	4955.1	4440.1
30°	4903.7	4905.3	4863.3	4752.8	4636.1	4642.4	4759.0	5376.7	5675.4	5384.5	4771.5
32.5°	5350.2	5378.2	5300.4	5190.0	5048.4	5003.3	5082.6	5683.2	6202.8	5891.6	5155.8
35°	5883.8	5888.5	5803.0	5641.2	5499.6	5428.0	5501.1	6065.9	6811.1	6487.5	5624.0
37.5°	6437.7	6440.8	6352.1	6145.2	5966.3	5919.6	6000.5	6531.0	7455.2	7165.8	6174.8
40°	6890.4	6923.1	6853.1	6658.6	6478.1	6450.1	6566.8	7088.0	8278.2	7968.6	6829.7
42.5°	7403.8	7441.2	7357.1	7154.9	7011.8	7002.4	7184.5	7722.7	9096.5	8897.3	7571.8
45°	7982.6	8035.5	7918.8	7691.6	7570.3	7775.6	7786.5	8425.9	10039.3	9936.6	8407.3
47.5°	8614.2	8657.8	8562.9	8318.6	8186.4	8483.5	8376.2	9186.7	11058.3	11050.5	9311.2
50°	9101.1	9149.4	9158.7	9051.4	8912.9	8950.2	9023.4	9986.4	12074.2	12195.5	10246.2
52.5°	9012.5	9059.1	9269.2	9550.8	9773.2	9676.8	9765.4	10835.8	13055.9	13312.6	11134.5
55°	8296.8	8321.7	8715.3	9384.3	10331.7	10792.2	10798.5	11759.9	13989.3	14348.7	11977.7
57.5°	7007.1	7010.2	7522.1	8508.4	10006.6	11515.7	12428.9	12920.5	14963.2	15493.7	13023.2
60°	4958.2	4970.6	5566.5	6856.2	8841.3	11428.5	14182.2	14997.4	16091.1	16780.3	14370.5
62.5°	2943.5	2971.5	3421.1	4455.7	6566.8	10308.4	15218.4	18692.3	17752.7	18667.5	16526.7
65°	1915.1	1938.5	2207.6	2727.2	3880.0	7500.3	14877.6	22270.6	20896.8	21635.8	19625.8
67.5°	1474.9	1493.5	1705.1	2019.4	2380.3	4054.3	11895.3	23020.4	24724.0	24954.2	22241.0
69°	1295.9	1311.5	1467.1	1768.9	2003.8	2683.7	8864.7	21659.2	25680.8	25806.8	22273.7
70°	1201.0	1213.5	1359.7	1621.1	1840.5	2142.3	6784.6	20078.5	25330.7	25652.8	21631.2
72.5°	989.5	1000.3	1104.6	1305.3	1504.4	1526.2	3005.7	14661.4	21329.3	22359.3	18305.0
75°	826.1	832.3	900.8	1047.0	1218.2	1215.0	1535.5	8304.6	13015.4	14242.9	11302.5
77.5°	689.2	693.9	739.0	829.2	961.5	956.8	1081.2	3584.4	5746.9	5544.7	3890.9
80°	608.3	611.4	634.7	658.1	742.1	737.4	801.2	1646.0	2338.3	2160.9	1471.7
82.5°	462.1	468.3	586.5	597.4	575.6	555.4	558.5	958.3	1197.9	1090.6	790.3
85°	261.4	262.9	376.5	440.3	501.0	376.5	362.5	494.7	591.2	518.1	345.4
87.5°	116.7	121.3	180.5	208.5	270.7	220.9	206.9	210.0	255.1	211.6	136.9
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°	3337.1	3337.1	3337.1	3337.1	3337.1	3337.1	3337.1	3337.1	3337.1	3337.1	3337.1
2.5°	3312.2	3285.7	3223.5	3159.7	3095.9	3055.5	3013.5	2974.6	2959.0	2957.5	2927.9
5°	3326.2	3264.0	3122.4	2966.8	2819.0	2703.9	2607.4	2545.2	2484.5	2473.6	2447.2
7.5°	3330.9	3229.7	2999.5	2750.6	2525.0	2366.3	2269.8	2227.8	2198.3	2190.5	2181.2
10°	3329.3	3186.2	2862.6	2521.9	2265.2	2145.4	2109.6	2118.9	2131.4	2137.6	2137.6
12.5°	3354.2	3166.0	2725.7	2307.2	2097.2	2039.6	2067.6	2115.8	2153.2	2168.7	2171.8
15°	3399.3	3153.5	2574.8	2120.5	1978.9	1992.9	2061.4	2131.4	2184.3	2207.6	2213.8
17.5°	3455.3	3136.4	2400.5	1966.5	1910.5	1958.7	2047.4	2136.0	2199.8	2229.4	2234.1
20°	3517.6	3111.5	2220.1	1851.3	1849.8	1910.5	1999.1	2098.7	2167.2	2199.8	2198.3
22.5°	3601.6	3088.2	2052.0	1767.3	1782.9	1838.9	1912.0	2002.3	2066.0	2095.6	2089.4
25°	3713.6	3066.4	1901.1	1692.7	1706.7	1744.0	1795.3	1863.8	1908.9	1924.5	1913.6
27.5°	3864.5	3049.3	1782.9	1624.2	1622.6	1639.8	1670.9	1708.2	1730.0	1725.3	1708.2
30°	4049.6	3032.2	1695.8	1563.5	1541.7	1540.2	1554.2	1576.0	1590.0	1562.0	1548.0
32.5°	4256.5	3002.6	1618.0	1510.6	1471.7	1457.7	1464.0	1493.5	1551.1	1523.1	1512.2
35°	4500.8	2968.4	1540.2	1453.1	1423.5	1397.1	1401.7	1465.5	1639.8	1619.5	1608.6
37.5°	4794.8	2937.3	1468.6	1390.8	1389.3	1356.6	1353.5	1429.7	1663.1	1619.5	1610.2
40°	5148.0	2931.0	1404.8	1322.4	1347.3	1334.8	1323.9	1370.6	1534.0	1445.3	1428.2
42.5°	5574.3	2959.0	1358.2	1257.0	1299.1	1328.6	1308.4	1319.3	1386.2	1306.8	1292.8
45°	6072.1	3035.3	1323.9	1199.5	1247.7	1323.9	1300.6	1291.3	1302.2	1258.6	1249.3
47.5°	6652.4	3170.6	1300.6	1151.3	1199.5	1311.5	1297.5	1278.8	1274.2	1249.3	1243.0
50°	7273.1	3352.6	1285.1	1107.7	1155.9	1289.7	1295.9	1269.5	1261.7	1250.8	1247.7
52.5°	7889.2	3550.2	1266.4	1070.4	1120.1	1263.3	1297.5	1260.2	1249.3	1243.0	1239.9
55°	8502.2	3755.6	1232.2	1037.7	1093.7	1232.2	1295.9	1247.7	1235.3	1235.3	1235.3
57.5°	9297.2	4068.3	1187.0	1011.2	1059.5	1191.7	1275.7	1233.7	1216.6	1218.2	1219.7
60°	10445.3	4592.6	1137.3	981.7	1014.3	1145.0	1244.6	1208.8	1188.6	1194.8	1196.4
62.5°	12363.6	5508.9	1068.8	939.7	967.7	1095.2	1204.2	1174.6	1155.9	1166.8	1168.4
65°	14921.2	6618.2	978.6	886.8	919.4	1039.2	1152.8	1134.1	1113.9	1140.4	1138.8
67.5°	16481.6	6943.3	883.7	830.8	872.8	980.1	1089.0	1081.2	1067.2	1113.9	1110.8
69°	15969.8	6355.2	829.2	795.0	840.1	939.7	1048.6	1045.5	1034.6	1079.7	1076.6
70°	15174.8	5806.1	795.0	771.7	823.0	914.8	1022.1	1022.1	1011.2	1050.1	1042.4
72.5°	12189.3	4306.3	715.6	712.5	763.9	846.3	950.6	958.3	952.1	966.1	958.3
75°	7156.5	2595.0	637.9	647.2	692.3	773.2	871.2	877.4	871.2	869.7	871.2
77.5°	2481.4	1163.7	563.2	577.2	616.1	698.5	784.1	796.5	787.2	776.3	779.4
80°	970.8	676.8	482.3	502.5	535.2	614.5	697.0	704.8	690.8	689.2	676.8
82.5°	583.4	412.3	374.9	407.6	448.1	533.6	602.1	599.0	588.1	651.9	571.0
85°	253.6	228.7	273.8	306.5	326.7	399.8	508.7	494.7	468.3	412.3	402.9
87.5°	102.7	118.2	150.9	182.0	196.0	258.3	348.5	336.0	340.7	280.0	278.5
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)