

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: P195293

Luminaire Tested: **NAV-AF-05-D-UNV-T2-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195293
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-T2-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19392 lumens
Efficiency: N/A
Efficacy: 119.7 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

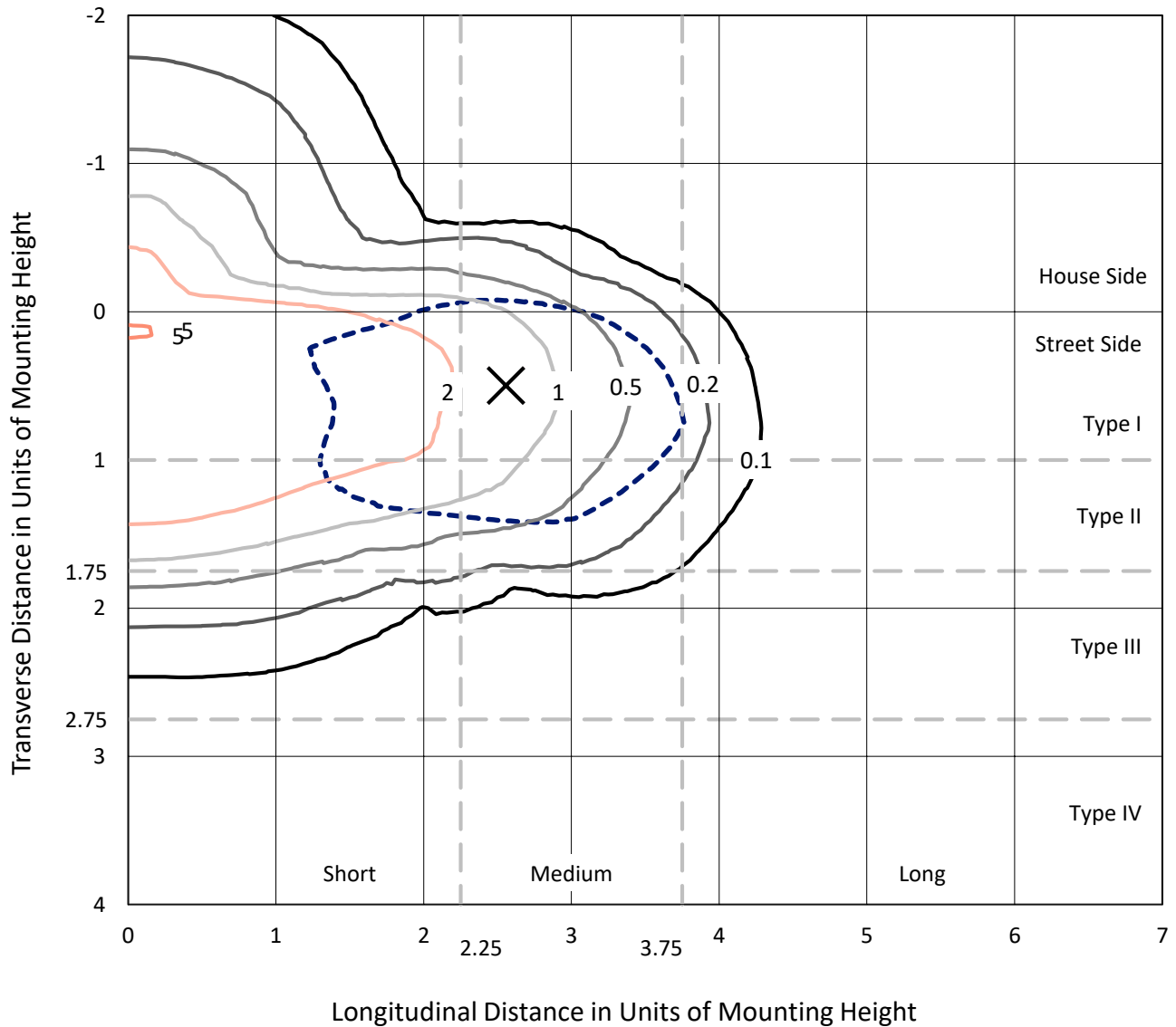
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

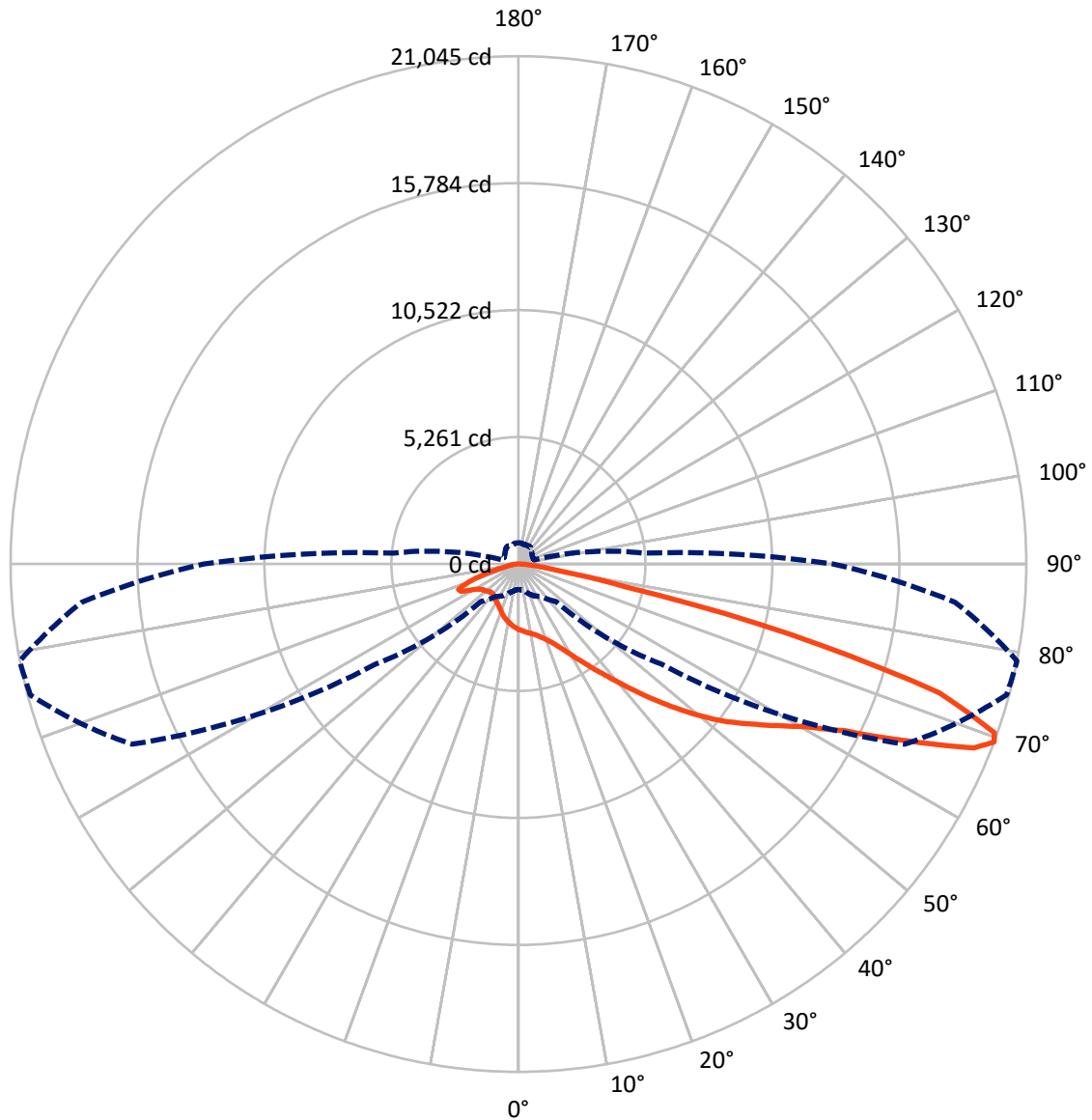
× Max cd
 - - - 1/2 Max cd



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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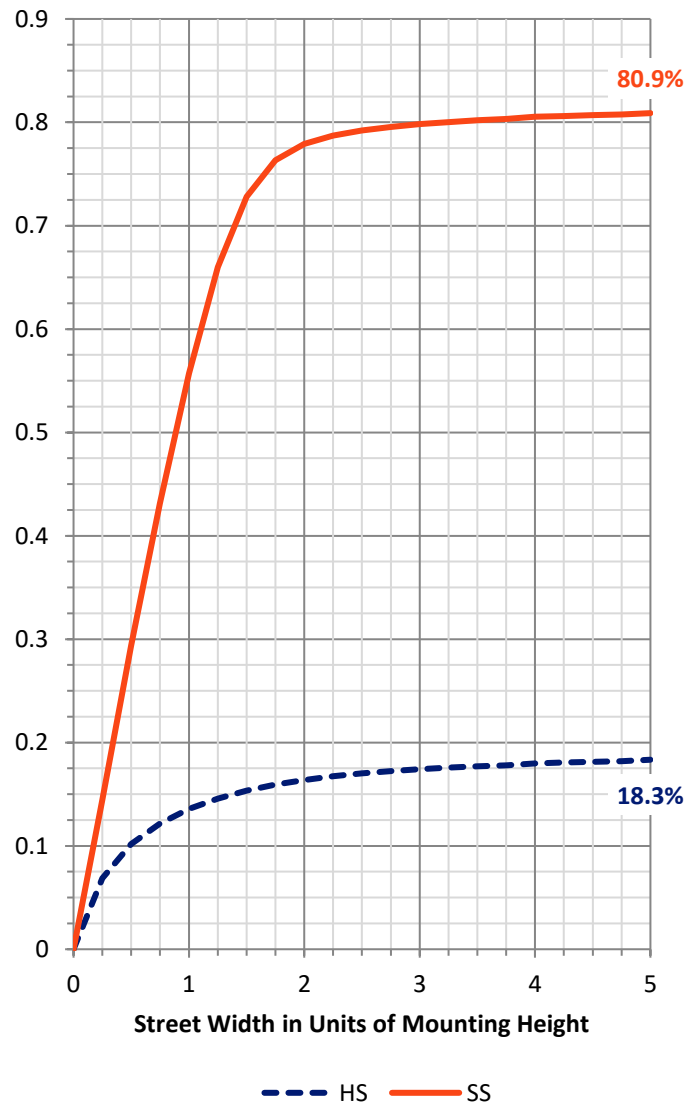
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3648.0	0.0	3648.0
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	15744.0	0.0	15744.0
	% Fixture	81.2	0.0	81.2
Total	Lumens	19392.0	0.0	19392.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.3	1.3
10°-20°	723.3	3.7
20°-30°	1195.2	6.2
30°-40°	1935.3	10.0
40°-50°	3091.6	15.9
50°-60°	4427.5	22.8
60°-70°	4932.9	25.4
70°-80°	2467.9	12.7
80°-90°	366.2	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°	19392.0	100.0
0°-180°	19392.0	100.0

Coefficient of Utilization



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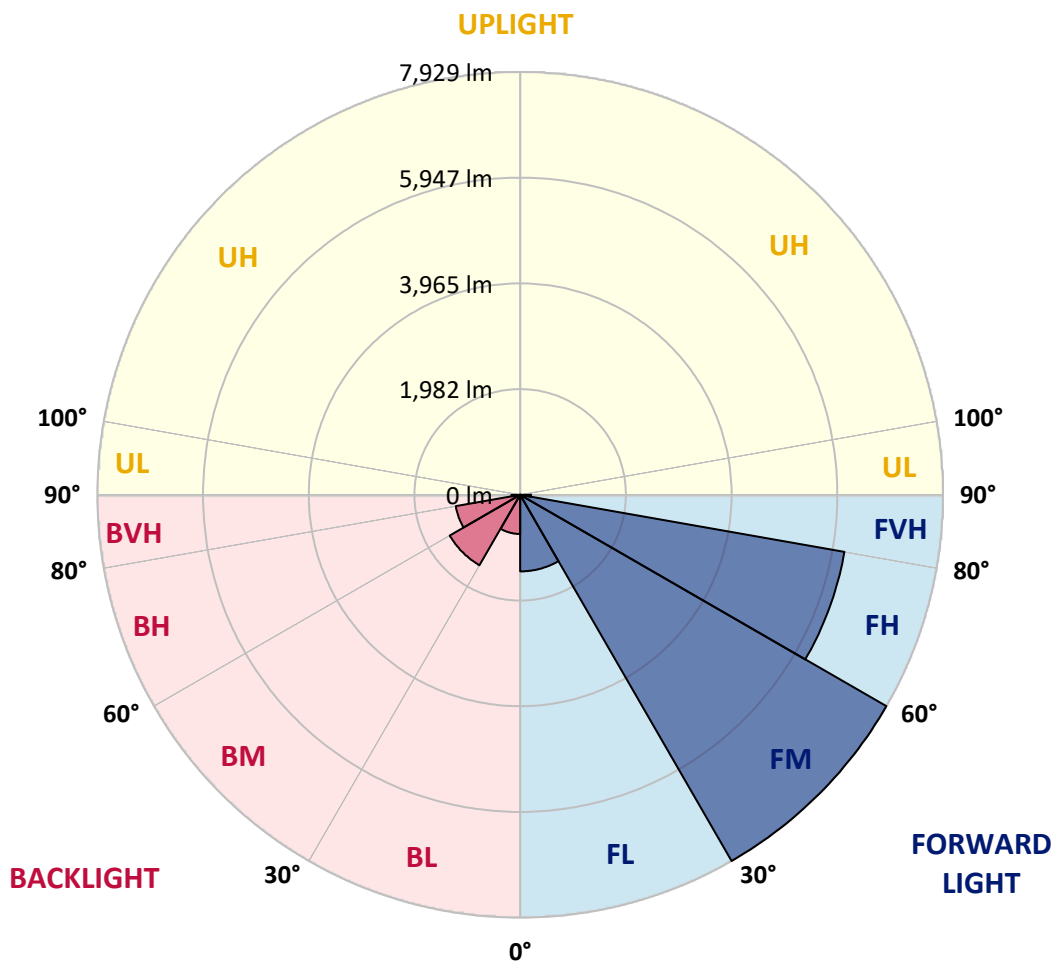
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1435.8	7.4			
FM (30°-60°)	7929.4	40.9			
FH (60°-80°)	6174.1	31.8			G3/7500
FVH (80°-90°)	204.6	1.1			G2/225
BL (0°-30°)	734.9	3.8	B2/1000		
BM (30°-60°)	1524.9	7.9	B2/2500		
BH (60°-80°)	1226.6	6.3	B3/2500		G3/2500
BVH (80°-90°)	161.6	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	2721.3	2721.3	2721.3	2721.3	2721.3	2721.3	2721.3	2721.3	2721.3	2721.3	2721.3
2.5°	2987.7	2981.4	2980.1	2961.1	2950.9	2929.4	2878.6	2826.6	2778.4	2753.0	2726.4
5°	3237.7	3225.0	3218.6	3186.9	3159.0	3110.8	3030.9	2948.4	2862.1	2817.7	2764.4
7.5°	3388.6	3389.9	3389.9	3364.5	3336.6	3278.3	3176.8	3063.9	2935.7	2877.4	2793.6
10°	3401.3	3402.6	3421.6	3428.0	3434.3	3403.9	3310.0	3167.9	3003.0	2926.8	2817.7
12.5°	3275.7	3284.6	3316.3	3362.0	3426.7	3459.7	3419.1	3279.5	3089.2	2996.6	2863.4
15°	3107.0	3115.9	3156.5	3226.2	3330.3	3440.6	3497.7	3407.7	3202.1	3093.0	2930.6
17.5°	3024.5	3034.7	3062.6	3118.4	3219.9	3368.3	3539.6	3544.7	3335.3	3209.8	3010.6
20°	2985.2	2992.8	3028.3	3074.0	3151.4	3293.5	3543.4	3689.3	3493.9	3348.0	3108.3
22.5°	3075.3	3077.8	3095.6	3120.9	3173.0	3282.1	3540.9	3839.0	3691.8	3521.8	3233.9
25°	3339.2	3322.7	3310.0	3278.3	3290.9	3368.3	3581.5	3998.9	3945.6	3750.2	3401.3
27.5°	3651.3	3648.7	3615.7	3542.1	3495.2	3544.7	3696.9	4177.8	4256.4	4040.7	3620.8
30°	3998.9	4000.1	3965.9	3875.8	3780.7	3785.7	3880.9	4384.5	4628.1	4390.9	3891.0
32.5°	4363.0	4385.8	4322.4	4232.3	4116.9	4080.1	4144.8	4634.5	5058.2	4804.5	4204.4
35°	4798.1	4801.9	4732.2	4600.2	4484.8	4426.4	4486.0	4946.6	5554.3	5290.4	4586.3
37.5°	5249.8	5252.3	5180.0	5011.3	4865.4	4827.3	4893.3	5325.9	6079.5	5843.5	5035.4
40°	5619.0	5645.6	5588.5	5429.9	5282.8	5259.9	5355.1	5780.1	6750.6	6498.2	5569.5
42.5°	6037.6	6068.1	5999.6	5834.6	5717.9	5710.3	5858.7	6297.7	7417.9	7255.6	6174.6
45°	6509.6	6552.7	6457.6	6272.3	6173.4	6340.8	6349.7	6871.2	8186.8	8103.0	6855.9
47.5°	7024.7	7060.2	6982.8	6783.6	6675.8	6918.1	6830.6	7491.5	9017.8	9011.4	7593.0
50°	7421.8	7461.1	7468.7	7381.2	7268.2	7298.7	7358.3	8143.6	9846.2	9945.2	8355.5
52.5°	7349.4	7387.5	7558.8	7788.4	7969.8	7891.2	7963.5	8836.3	10646.7	10856.1	9079.9
55°	6765.9	6786.1	7107.1	7652.7	8425.3	8800.8	8805.9	9589.9	11407.9	11701.0	9767.5
57.5°	5714.1	5716.7	6134.0	6938.4	8160.1	9390.7	10135.5	10536.4	12202.1	12634.7	10620.1
60°	4043.3	4053.4	4539.3	5591.1	7209.9	9319.7	11565.3	12230.0	13121.9	13683.9	11718.8
62.5°	2400.3	2423.2	2789.8	3633.5	5355.1	8406.2	12410.2	15243.1	14476.9	15222.8	13477.1
65°	1561.7	1580.8	1800.3	2224.0	3164.1	6116.3	12132.4	18161.1	17040.9	17643.5	16004.4
67.5°	1202.7	1217.9	1390.5	1646.7	1941.1	3306.2	9700.3	18772.6	20161.8	20349.6	18137.0
69°	1056.8	1069.5	1196.4	1442.5	1634.1	2188.5	7228.9	17662.5	20942.0	21044.8	18163.6
70°	979.4	989.6	1108.8	1322.0	1500.8	1747.0	5532.7	16373.5	20656.6	20919.2	17639.7
72.5°	806.9	815.8	900.8	1064.4	1226.8	1244.6	2451.1	11956.0	17393.6	18233.4	14927.2
75°	673.7	678.7	734.6	853.8	993.4	990.8	1252.2	6772.2	10613.7	11614.7	9216.9
77.5°	562.0	565.8	602.6	676.2	784.0	780.2	881.7	2923.0	4686.5	4521.6	3173.0
80°	496.1	498.6	517.6	536.7	605.2	601.4	653.4	1342.3	1906.8	1762.2	1200.2
82.5°	376.8	381.9	478.3	487.2	469.4	452.9	455.5	781.5	976.9	889.3	644.5
85°	213.1	214.4	307.0	359.0	408.5	307.0	295.6	403.4	482.1	422.5	281.6
87.5°	95.2	99.0	147.2	170.0	220.7	180.2	168.7	171.3	208.1	172.5	111.6
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°	2721.3	2721.3	2721.3	2721.3	2721.3	2721.3	2721.3	2721.3	2721.3	2721.3	2721.3
2.5°	2701.0	2679.4	2628.7	2576.7	2524.7	2491.7	2457.4	2425.7	2413.0	2411.8	2387.6
5°	2712.4	2661.7	2546.2	2419.4	2298.8	2205.0	2126.3	2075.6	2026.1	2017.2	1995.6
7.5°	2716.2	2633.8	2446.0	2243.0	2059.1	1929.7	1851.0	1816.7	1792.6	1786.3	1778.7
10°	2715.0	2598.2	2334.4	2056.5	1847.2	1749.5	1720.3	1727.9	1738.1	1743.2	1743.2
12.5°	2735.3	2581.8	2222.7	1881.4	1710.2	1663.2	1686.1	1725.4	1755.8	1768.5	1771.1
15°	2772.1	2571.6	2099.7	1729.2	1613.8	1625.2	1681.0	1738.1	1781.2	1800.3	1805.3
17.5°	2817.7	2557.7	1957.6	1603.6	1557.9	1597.3	1669.6	1741.9	1793.9	1818.0	1821.8
20°	2868.5	2537.4	1810.4	1509.7	1508.5	1557.9	1630.2	1711.4	1767.3	1793.9	1792.6
22.5°	2937.0	2518.3	1673.4	1441.2	1453.9	1499.6	1559.2	1632.8	1684.8	1708.9	1703.8
25°	3028.3	2500.6	1550.3	1380.3	1391.7	1422.2	1464.1	1519.9	1556.7	1569.4	1560.5
27.5°	3151.4	2486.6	1453.9	1324.5	1323.2	1337.2	1362.6	1393.0	1410.8	1407.0	1393.0
30°	3302.4	2472.6	1382.9	1275.0	1257.3	1256.0	1267.4	1285.2	1296.6	1273.8	1262.3
32.5°	3471.1	2448.5	1319.4	1231.9	1200.2	1188.7	1193.8	1217.9	1264.9	1242.0	1233.2
35°	3670.3	2420.6	1256.0	1184.9	1160.8	1139.3	1143.1	1195.1	1337.2	1320.7	1311.8
37.5°	3910.1	2395.3	1197.6	1134.2	1132.9	1106.3	1103.7	1165.9	1356.2	1320.7	1313.1
40°	4198.0	2390.2	1145.6	1078.4	1098.7	1088.5	1079.6	1117.7	1250.9	1178.6	1164.6
42.5°	4545.7	2413.0	1107.6	1025.1	1059.3	1083.4	1067.0	1075.8	1130.4	1065.7	1054.3
45°	4951.6	2475.2	1079.6	978.1	1017.5	1079.6	1060.6	1053.0	1061.9	1026.4	1018.7
47.5°	5424.9	2585.6	1060.6	938.8	978.1	1069.5	1058.1	1042.9	1039.0	1018.7	1013.7
50°	5931.1	2734.0	1047.9	903.3	942.6	1051.7	1056.8	1035.2	1028.9	1020.0	1017.5
52.5°	6433.5	2895.1	1032.7	872.8	913.4	1030.2	1058.1	1027.6	1018.7	1013.7	1011.1
55°	6933.3	3062.6	1004.8	846.2	891.9	1004.8	1056.8	1017.5	1007.3	1007.3	1007.3
57.5°	7581.6	3317.6	968.0	824.6	864.0	971.8	1040.3	1006.1	992.1	993.4	994.6
60°	8517.9	3745.1	927.4	800.5	827.2	933.7	1014.9	985.8	969.3	974.3	975.6
62.5°	10082.2	4492.4	871.6	766.3	789.1	893.1	982.0	957.9	942.6	951.5	952.8
65°	12167.9	5396.9	798.0	723.1	749.8	847.5	940.1	924.9	908.4	929.9	928.7
67.5°	13440.4	5662.1	720.6	677.5	711.7	799.3	888.1	881.7	870.3	908.4	905.8
69°	13023.0	5182.5	676.2	648.3	685.1	766.3	855.1	852.6	843.7	880.5	877.9
70°	12374.7	4734.7	648.3	629.3	671.1	746.0	833.5	833.5	824.6	856.4	850.0
72.5°	9940.1	3511.7	583.6	581.1	622.9	690.2	775.2	781.5	776.4	787.8	781.5
75°	5835.9	2116.2	520.2	527.8	564.6	630.5	710.5	715.5	710.5	709.2	710.5
77.5°	2023.5	949.0	459.3	470.7	502.4	569.6	639.4	649.6	642.0	633.1	635.6
80°	791.7	551.9	393.3	409.8	436.4	501.1	568.4	574.7	563.3	562.0	551.9
82.5°	475.8	336.2	305.8	332.4	365.4	435.2	491.0	488.4	479.6	531.6	465.6
85°	206.8	186.5	223.3	249.9	266.4	326.0	414.9	403.4	381.9	336.2	328.6
87.5°	83.7	96.4	123.1	148.4	159.9	210.6	284.2	274.0	277.8	228.4	227.1
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)