

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: P197224

Luminaire Tested: **NAV-AF-04-D-UNV-T2-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197224
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-04-D-UNV-T2-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 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: 19487 lumens
Efficiency: N/A
Efficacy: 86.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G3

Input Watts (W): 225
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

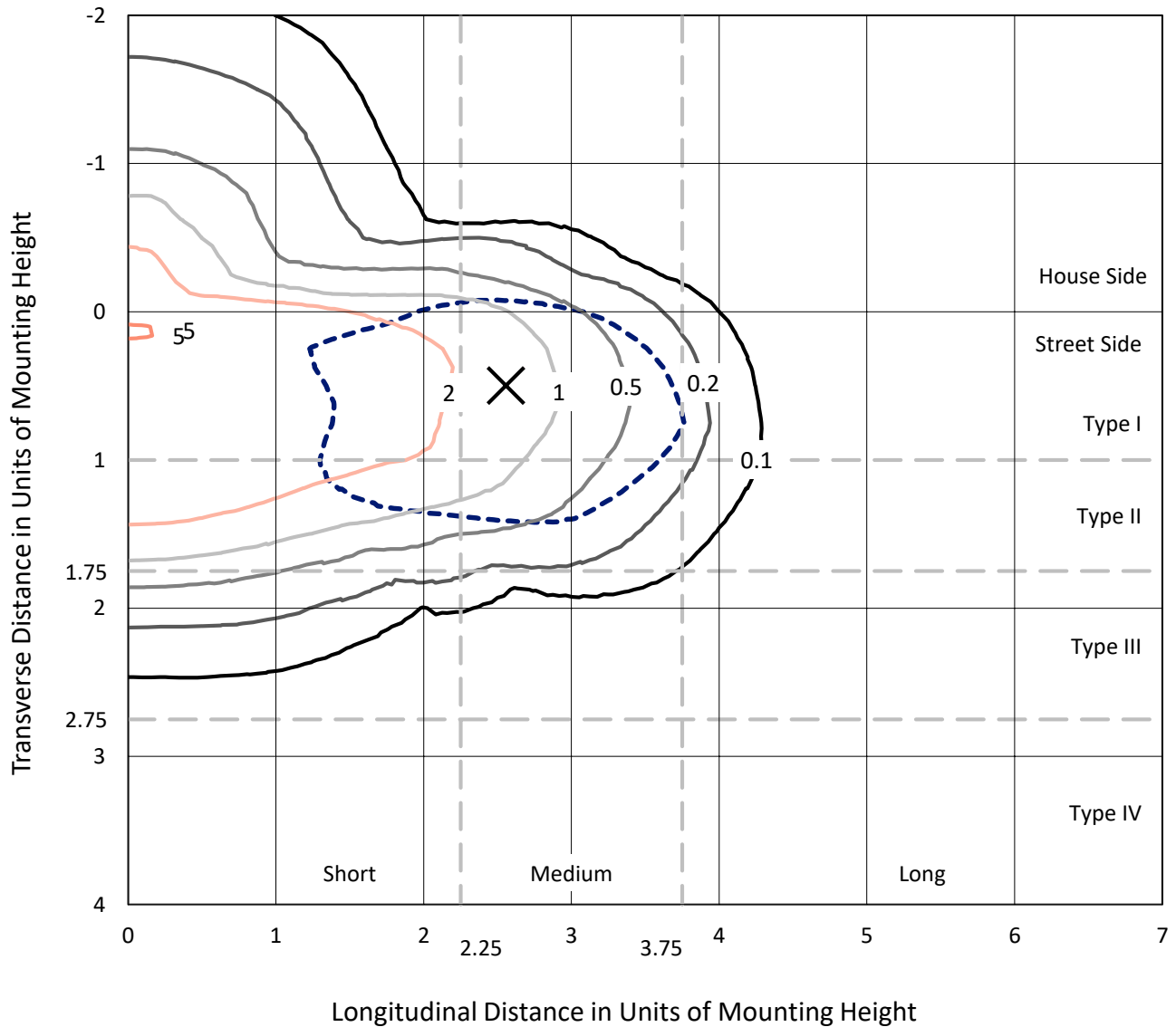


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Iso-Footcandle Lines of Horizontal Illumination

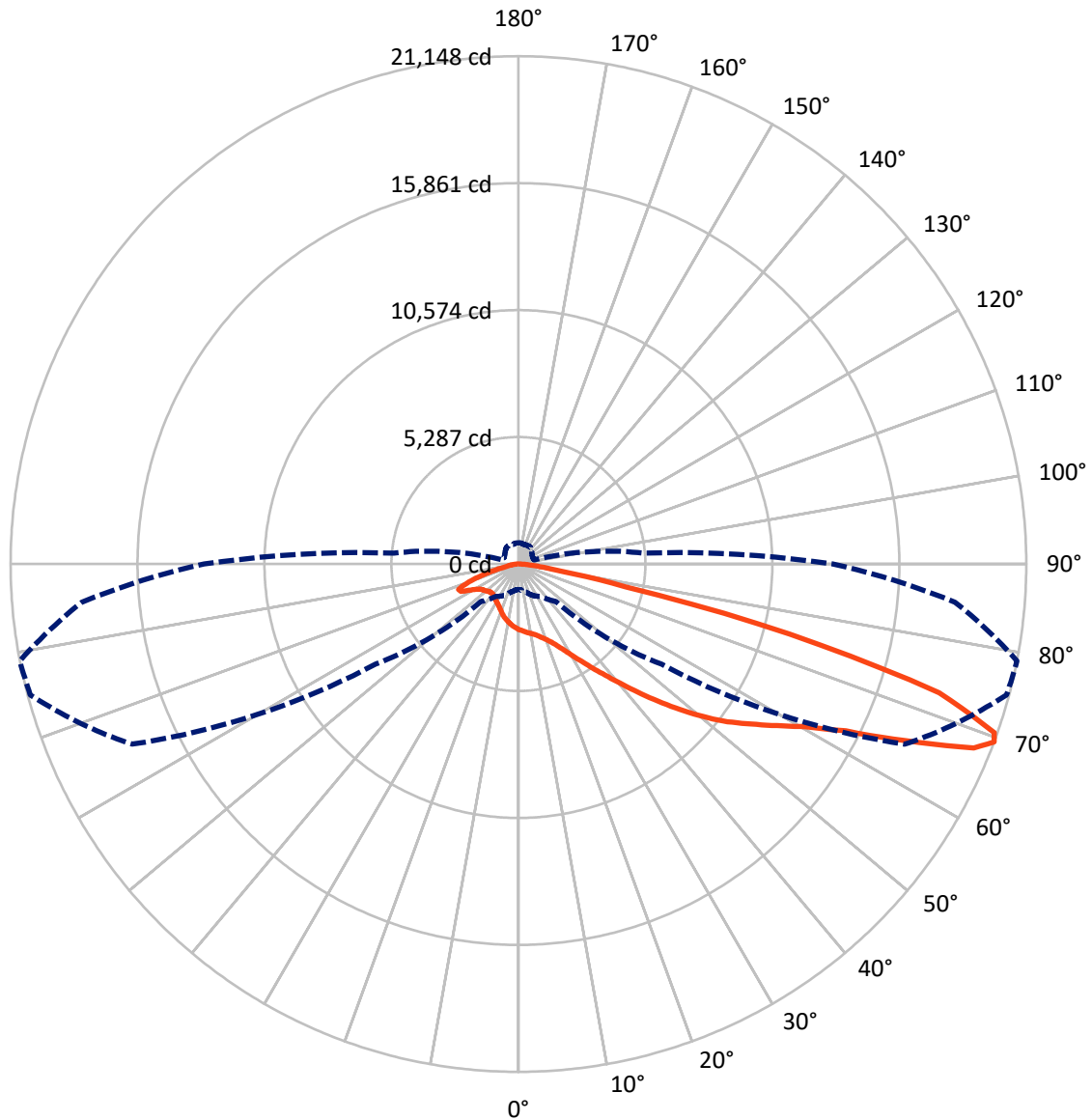
× Max cd
 - - - 1/2 Max cd



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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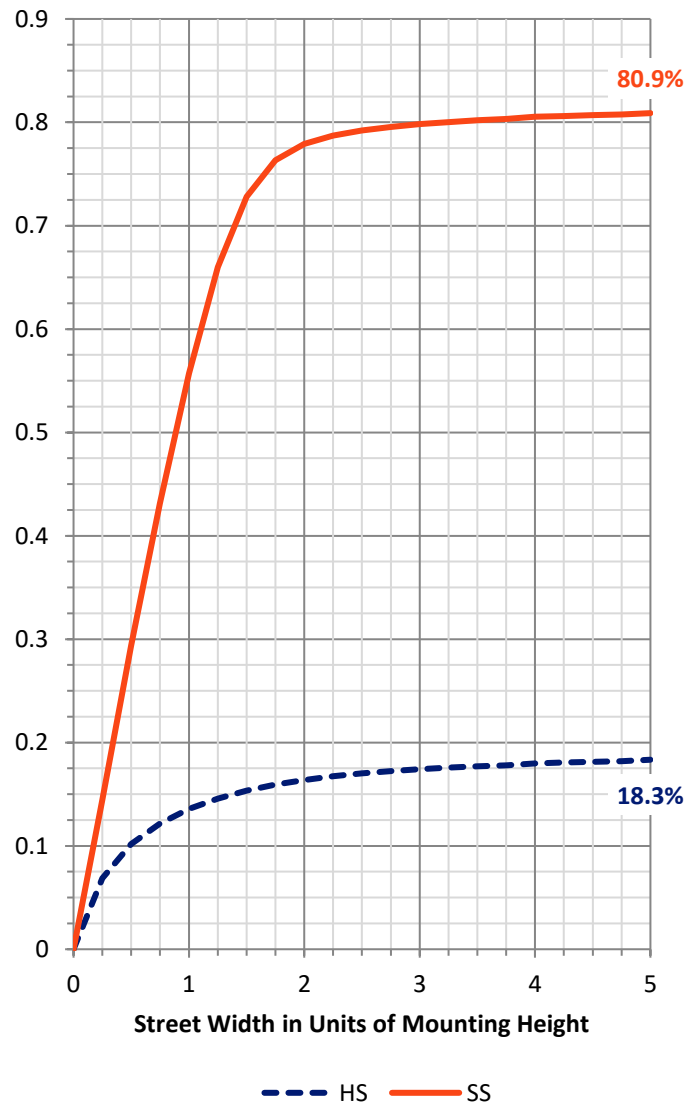
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3665.9	0.0	3665.9
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	15821.1	0.0	15821.1
	% Fixture	81.2	0.0	81.2
Total	Lumens	19487.0	0.0	19487.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	253.5	1.3
10°-20°	726.8	3.7
20°-30°	1201.0	6.2
30°-40°	1944.8	10.0
40°-50°	3106.7	15.9
50°-60°	4449.2	22.8
60°-70°	4957.0	25.4
70°-80°	2479.9	12.7
80°-90°	368.0	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°	19487.0	100.0
0°-180°	19487.0	100.0

Coefficient of Utilization



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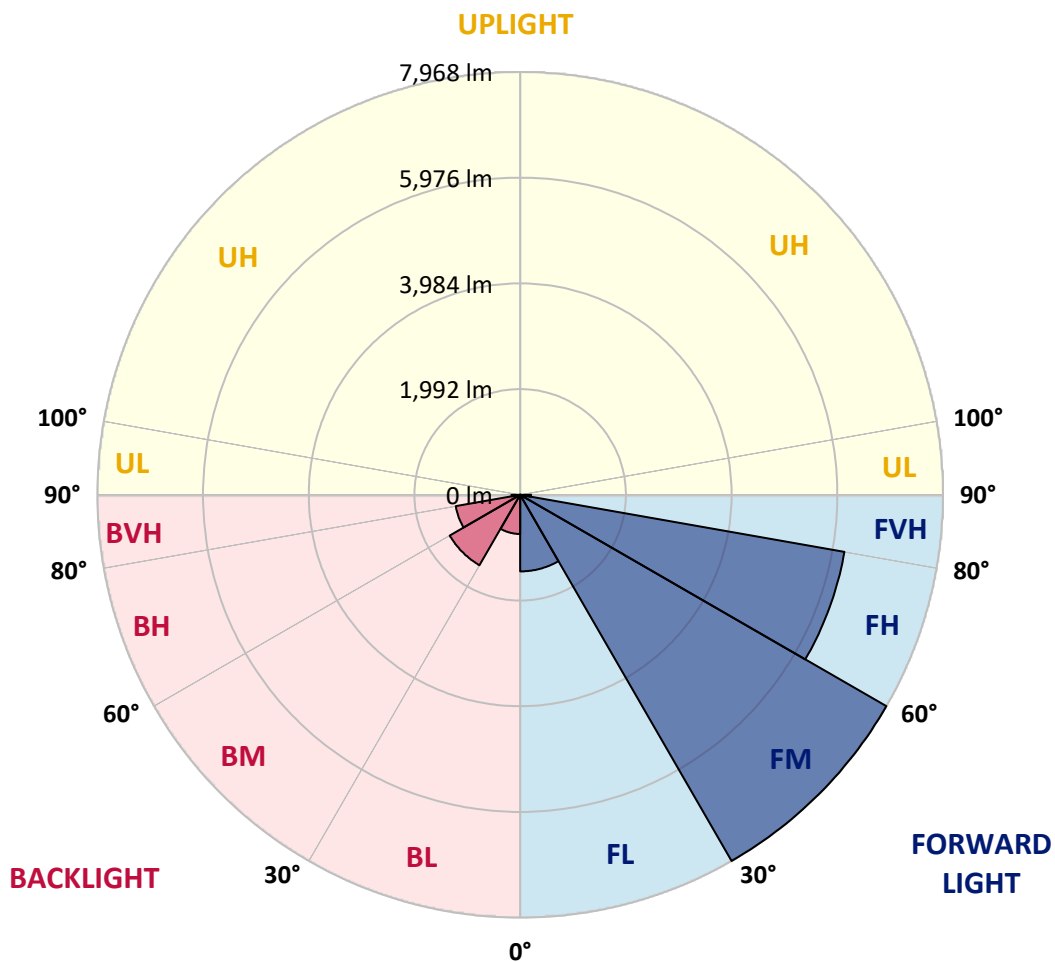
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1442.8	7.4			
FM (30°-60°)	7968.3	40.9			
FH (60°-80°)	6204.4	31.8			G3/7500
FVH (80°-90°)	205.6	1.1			G2/225
BL (0°-30°)	738.5	3.8	B2/1000		
BM (30°-60°)	1532.4	7.9	B2/2500		
BH (60°-80°)	1232.6	6.3	B3/2500		G3/2500
BVH (80°-90°)	162.4	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°	2734.6	2734.6	2734.6	2734.6	2734.6	2734.6	2734.6	2734.6	2734.6	2734.6	2734.6
2.5°	3002.4	2996.0	2994.7	2975.6	2965.4	2943.7	2892.7	2840.5	2792.0	2766.5	2739.7
5°	3253.5	3240.8	3234.4	3202.5	3174.5	3126.0	3045.7	2962.8	2876.2	2831.5	2778.0
7.5°	3405.2	3406.5	3406.5	3381.0	3353.0	3294.3	3192.3	3078.9	2950.1	2891.5	2807.3
10°	3418.0	3419.3	3438.4	3444.8	3451.1	3420.5	3326.2	3183.4	3017.7	2941.2	2831.5
12.5°	3291.8	3300.7	3332.6	3378.5	3443.5	3476.6	3435.8	3295.6	3104.4	3011.3	2877.4
15°	3122.2	3131.1	3171.9	3242.0	3346.6	3457.5	3514.9	3424.4	3217.8	3108.2	2945.0
17.5°	3039.3	3049.5	3077.6	3133.7	3235.7	3384.8	3556.9	3562.0	3351.7	3225.5	3025.3
20°	2999.8	3007.5	3043.2	3089.1	3166.8	3309.6	3560.8	3707.4	3511.1	3364.4	3123.5
22.5°	3090.3	3092.9	3110.7	3136.2	3188.5	3298.1	3558.2	3857.8	3709.9	3539.1	3249.7
25°	3355.5	3338.9	3326.2	3294.3	3307.1	3384.8	3599.0	4018.5	3964.9	3768.6	3418.0
27.5°	3669.1	3666.6	3633.4	3559.5	3512.3	3562.0	3715.0	4198.2	4277.3	4060.5	3638.5
30°	4018.5	4019.7	3985.3	3894.8	3799.2	3804.3	3899.9	4406.0	4650.8	4412.4	3910.1
32.5°	4384.4	4407.3	4343.6	4253.0	4137.0	4100.1	4165.1	4657.2	5083.0	4828.0	4225.0
35°	4821.6	4825.5	4755.3	4622.8	4506.7	4448.1	4508.0	4970.8	5581.5	5316.3	4608.7
37.5°	5275.5	5278.1	5205.4	5035.8	4889.2	4851.0	4917.3	5352.0	6109.3	5872.1	5060.0
40°	5646.5	5673.3	5615.9	5456.5	5308.6	5285.7	5381.3	5808.4	6783.7	6530.0	5596.8
42.5°	6067.2	6097.8	6029.0	5863.2	5745.9	5738.3	5887.4	6328.6	7454.3	7291.1	6204.9
45°	6541.5	6584.8	6489.2	6303.1	6203.6	6371.9	6380.8	6904.8	8226.9	8142.7	6889.5
47.5°	7059.1	7094.8	7017.0	6816.8	6708.5	6952.0	6864.0	7528.2	9061.9	9055.6	7630.2
50°	7458.1	7497.6	7505.3	7417.3	7303.9	7334.4	7394.4	8183.5	9894.4	9993.9	8396.4
52.5°	7385.4	7423.7	7595.8	7826.6	8008.9	7929.8	8002.5	8879.6	10698.9	10909.2	9124.4
55°	6799.0	6819.4	7141.9	7690.1	8466.6	8843.9	8849.0	9636.9	11463.8	11758.3	9815.4
57.5°	5742.1	5744.7	6164.1	6972.4	8200.1	9436.7	10185.1	10588.0	12261.9	12696.6	10672.1
60°	4063.1	4073.3	4561.6	5618.4	7245.2	9365.4	11621.9	12290.0	13186.2	13751.0	11776.2
62.5°	2412.1	2435.0	2803.5	3651.3	5381.3	8447.4	12471.0	15317.8	14547.8	15297.4	13543.2
65°	1569.4	1588.5	1809.1	2234.9	3179.6	6146.3	12191.8	18250.1	17124.3	17729.9	16082.8
67.5°	1208.6	1223.9	1397.3	1654.8	1950.6	3322.4	9747.8	18864.6	20260.6	20449.3	18225.8
69°	1062.0	1074.7	1202.2	1449.6	1642.1	2199.2	7264.3	17749.0	21044.6	21147.9	18252.6
70°	984.2	994.4	1114.3	1328.4	1508.2	1755.5	5559.8	16453.7	20757.8	21021.7	17726.1
72.5°	810.8	819.8	905.2	1069.6	1232.8	1250.7	2463.1	12014.6	17478.8	18322.7	15000.4
75°	677.0	682.1	738.2	858.0	998.2	995.7	1258.3	6805.4	10665.7	11671.6	9262.1
77.5°	564.8	568.6	605.6	679.5	787.9	784.1	886.0	2937.3	4709.4	4543.7	3188.5
80°	498.5	501.0	520.2	539.3	608.1	604.3	656.6	1348.8	1916.2	1770.8	1206.0
82.5°	378.6	383.7	480.6	489.6	471.7	455.1	457.7	785.3	981.7	893.7	647.6
85°	214.2	215.5	308.5	360.8	410.5	308.5	297.0	405.4	484.5	424.5	283.0
87.5°	95.6	99.4	147.9	170.8	221.8	181.0	169.6	172.1	209.1	173.4	112.2
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°	2734.6	2734.6	2734.6	2734.6	2734.6	2734.6	2734.6	2734.6	2734.6	2734.6	2734.6
2.5°	2714.2	2692.6	2641.6	2589.3	2537.0	2503.9	2469.5	2437.6	2424.8	2423.6	2399.3
5°	2725.7	2674.7	2558.7	2431.2	2310.1	2215.8	2136.7	2085.7	2036.0	2027.1	2005.4
7.5°	2729.5	2646.7	2458.0	2254.0	2069.1	1939.1	1860.1	1825.6	1801.4	1795.0	1787.4
10°	2728.3	2611.0	2345.8	2066.6	1856.2	1758.1	1728.8	1736.4	1746.6	1751.7	1751.7
12.5°	2748.7	2594.4	2233.6	1890.7	1718.6	1671.4	1694.3	1733.9	1764.4	1777.2	1779.7
15°	2785.6	2584.2	2109.9	1737.7	1621.7	1633.1	1689.2	1746.6	1789.9	1809.1	1814.2
17.5°	2831.5	2570.2	1967.2	1611.5	1565.6	1605.1	1677.8	1750.4	1802.7	1826.9	1830.7
20°	2882.5	2549.8	1819.3	1517.1	1515.8	1565.6	1638.2	1719.8	1775.9	1802.7	1801.4
22.5°	2951.4	2530.7	1681.6	1448.3	1461.0	1506.9	1566.8	1640.8	1693.1	1717.3	1712.2
25°	3043.2	2512.8	1557.9	1387.1	1398.6	1429.2	1471.2	1527.3	1564.3	1577.0	1568.1
27.5°	3166.8	2498.8	1461.0	1331.0	1329.7	1343.7	1369.2	1399.8	1417.7	1413.9	1399.8
30°	3318.5	2484.8	1389.6	1281.3	1263.4	1262.1	1273.6	1291.5	1302.9	1280.0	1268.5
32.5°	3488.1	2460.5	1325.9	1237.9	1206.0	1194.6	1199.7	1223.9	1271.1	1248.1	1239.2
35°	3688.3	2432.5	1262.1	1190.7	1166.5	1144.9	1148.7	1200.9	1343.7	1327.2	1318.2
37.5°	3929.2	2407.0	1203.5	1139.8	1138.5	1111.7	1109.2	1171.6	1362.9	1327.2	1319.5
40°	4218.6	2401.9	1151.2	1083.7	1104.1	1093.9	1084.9	1123.2	1257.0	1184.4	1170.4
42.5°	4567.9	2424.8	1113.0	1030.1	1064.5	1088.8	1072.2	1081.1	1135.9	1070.9	1059.4
45°	4975.9	2487.3	1084.9	982.9	1022.5	1084.9	1065.8	1058.2	1067.1	1031.4	1023.7
47.5°	5451.4	2598.2	1065.8	943.4	982.9	1074.7	1063.3	1048.0	1044.1	1023.7	1018.6
50°	5960.1	2747.4	1053.1	907.7	947.2	1056.9	1062.0	1040.3	1033.9	1025.0	1022.5
52.5°	6465.0	2909.3	1037.8	877.1	917.9	1035.2	1063.3	1032.7	1023.7	1018.6	1016.1
55°	6967.3	3077.6	1009.7	850.4	896.2	1009.7	1062.0	1022.5	1012.3	1012.3	1012.3
57.5°	7618.8	3333.8	972.7	828.7	868.2	976.6	1045.4	1011.0	997.0	998.2	999.5
60°	8559.6	3763.5	931.9	804.5	831.2	938.3	1019.9	990.6	974.0	979.1	980.4
62.5°	10131.6	4514.4	875.9	770.0	793.0	897.5	986.8	962.5	947.2	956.2	957.4
65°	12227.5	5423.4	801.9	726.7	753.5	851.6	944.7	929.4	912.8	934.5	933.2
67.5°	13506.2	5689.8	724.1	680.8	715.2	803.2	892.4	886.0	874.6	912.8	910.3
69°	13086.8	5207.9	679.5	651.5	688.4	770.0	859.3	856.7	847.8	884.8	882.2
70°	12435.3	4757.9	651.5	632.3	674.4	749.6	837.6	837.6	828.7	860.6	854.2
72.5°	9988.8	3528.9	586.5	583.9	626.0	693.5	779.0	785.3	780.2	791.7	785.3
75°	5864.5	2126.5	522.7	530.4	567.3	633.6	713.9	719.0	713.9	712.7	713.9
77.5°	2033.5	953.6	461.5	473.0	504.9	572.4	642.5	652.7	645.1	636.2	638.7
80°	795.5	554.6	395.2	411.8	438.6	503.6	571.2	577.5	566.1	564.8	554.6
82.5°	478.1	337.8	307.2	334.0	367.2	437.3	493.4	490.8	481.9	534.2	467.9
85°	207.8	187.4	224.4	251.2	267.7	327.6	416.9	405.4	383.7	337.8	330.2
87.5°	84.1	96.9	123.7	149.2	160.6	211.6	285.6	275.4	279.2	229.5	228.2
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)