

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: P197272

Luminaire Tested: **NAV-AF-04-D-UNV-T3-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197272
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
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-T3-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19914 lumens
Efficiency: N/A
Efficacy: 88.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-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

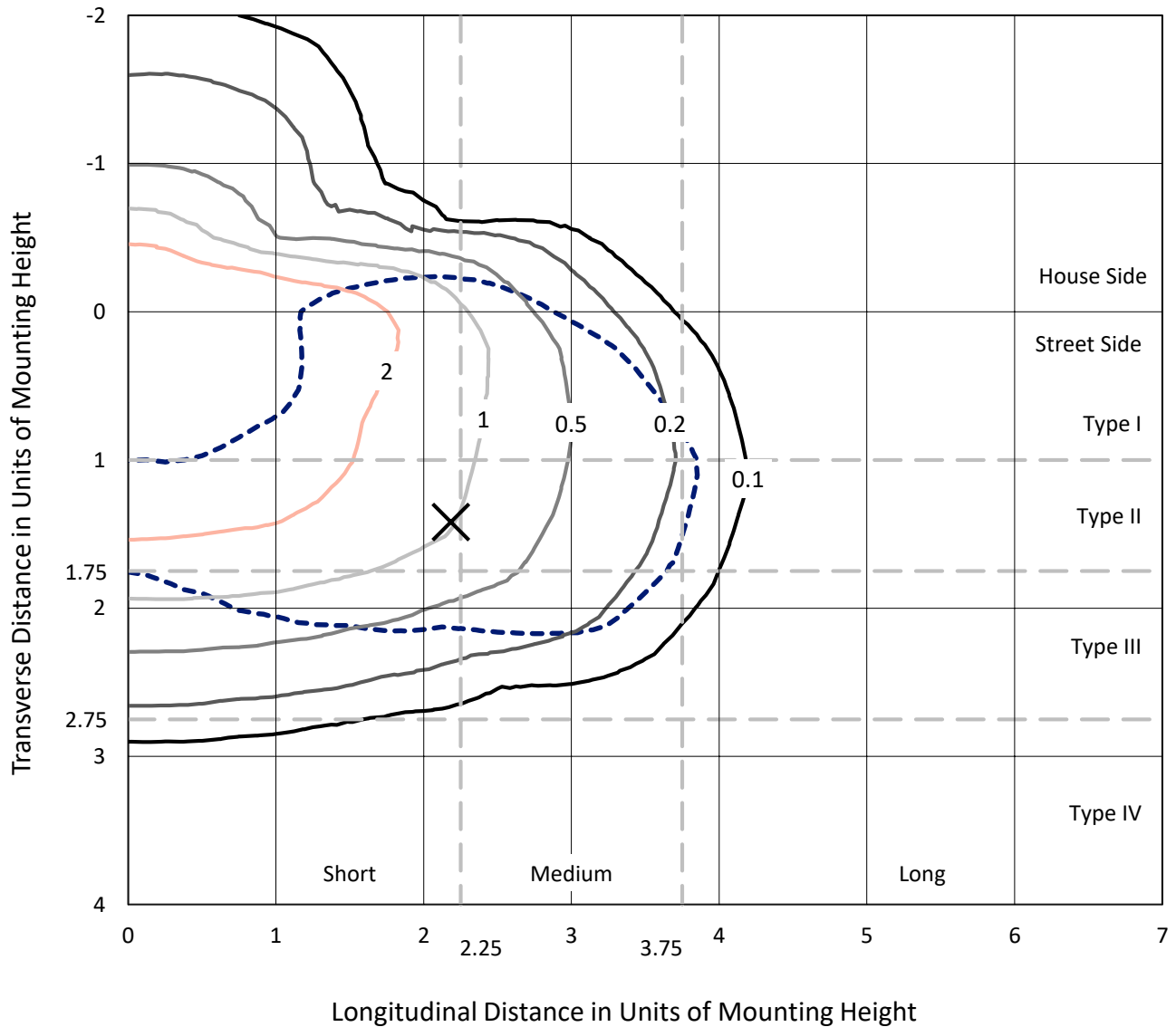


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Iso-Footcandle Lines of Horizontal Illumination

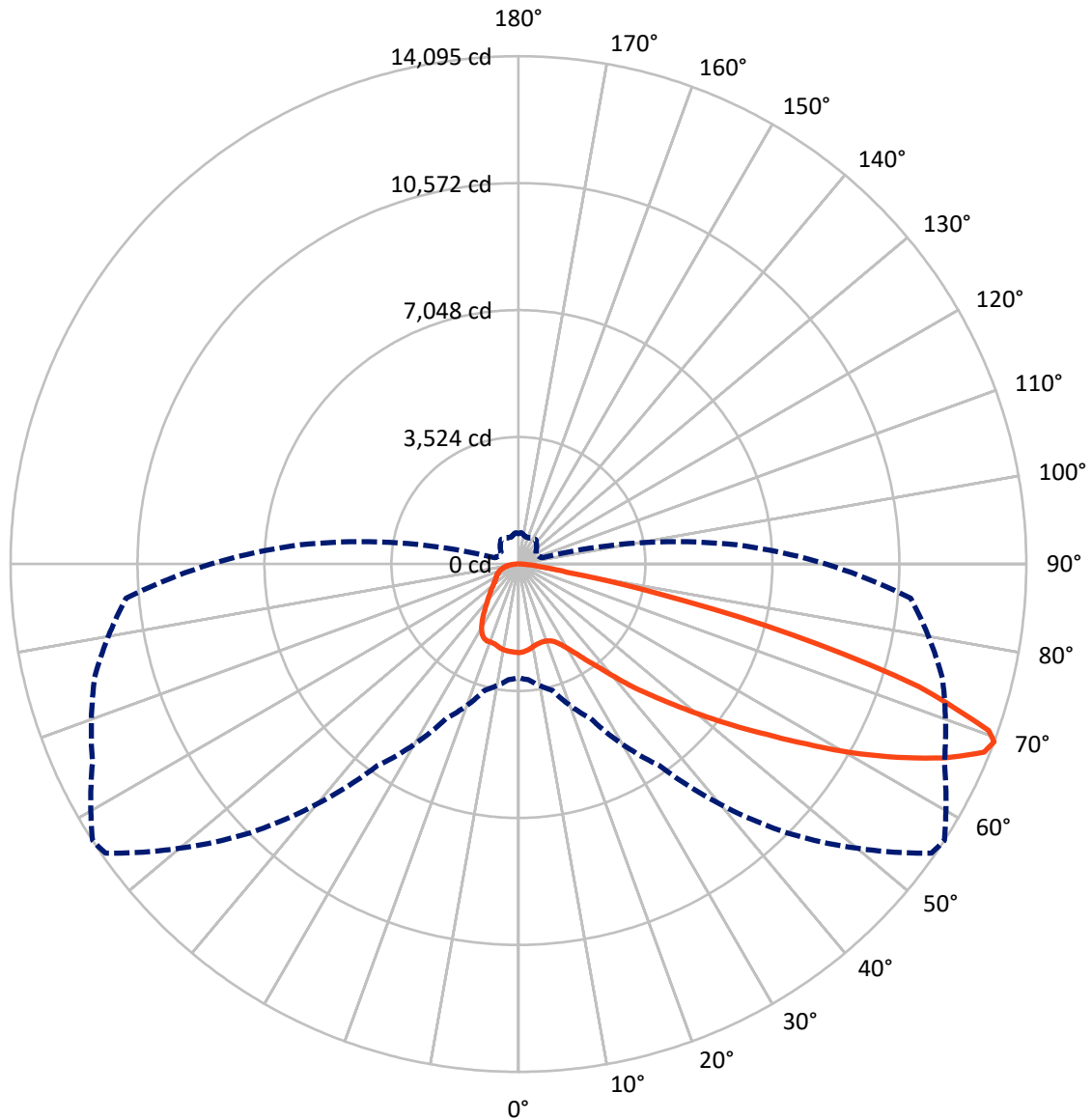
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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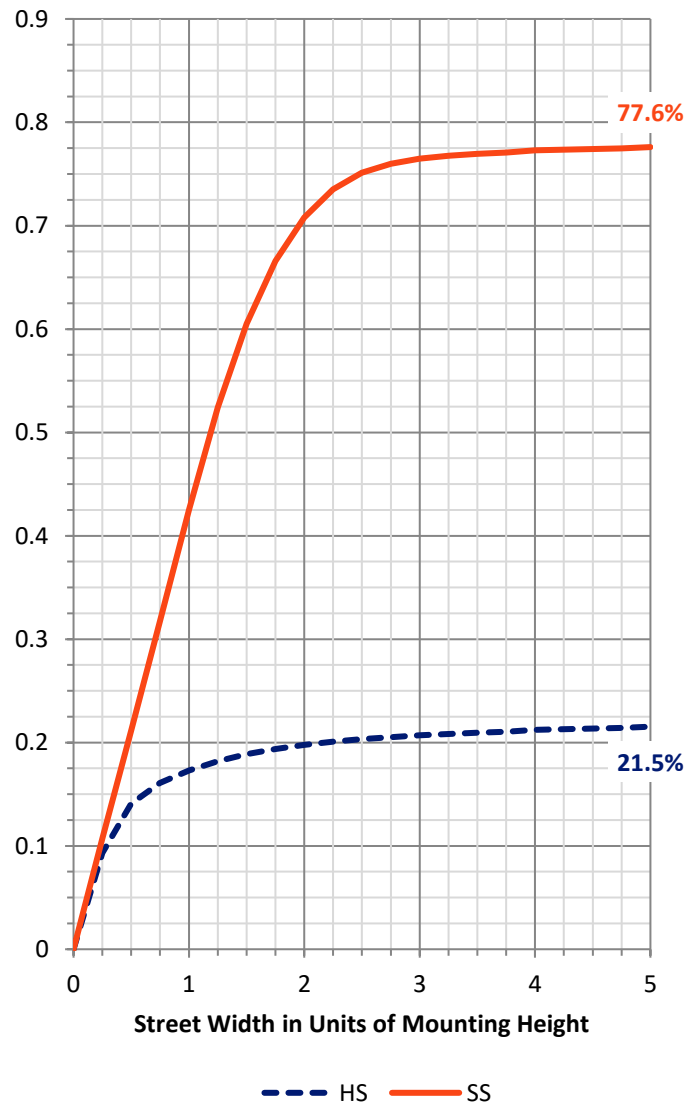
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4394.3	0.0	4394.3
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	15519.7	0.0	15519.7
	% Fixture	77.9	0.0	77.9
Total	Lumens	19914.0	0.0	19914.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.4	1.2
10°-20°	655.0	3.3
20°-30°	1089.5	5.5
30°-40°	1779.2	8.9
40°-50°	3002.8	15.1
50°-60°	4671.0	23.5
60°-70°	5564.2	27.9
70°-80°	2592.2	13.0
80°-90°	329.7	1.7
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°	19914.0	100.0
0°-180°	19914.0	100.0



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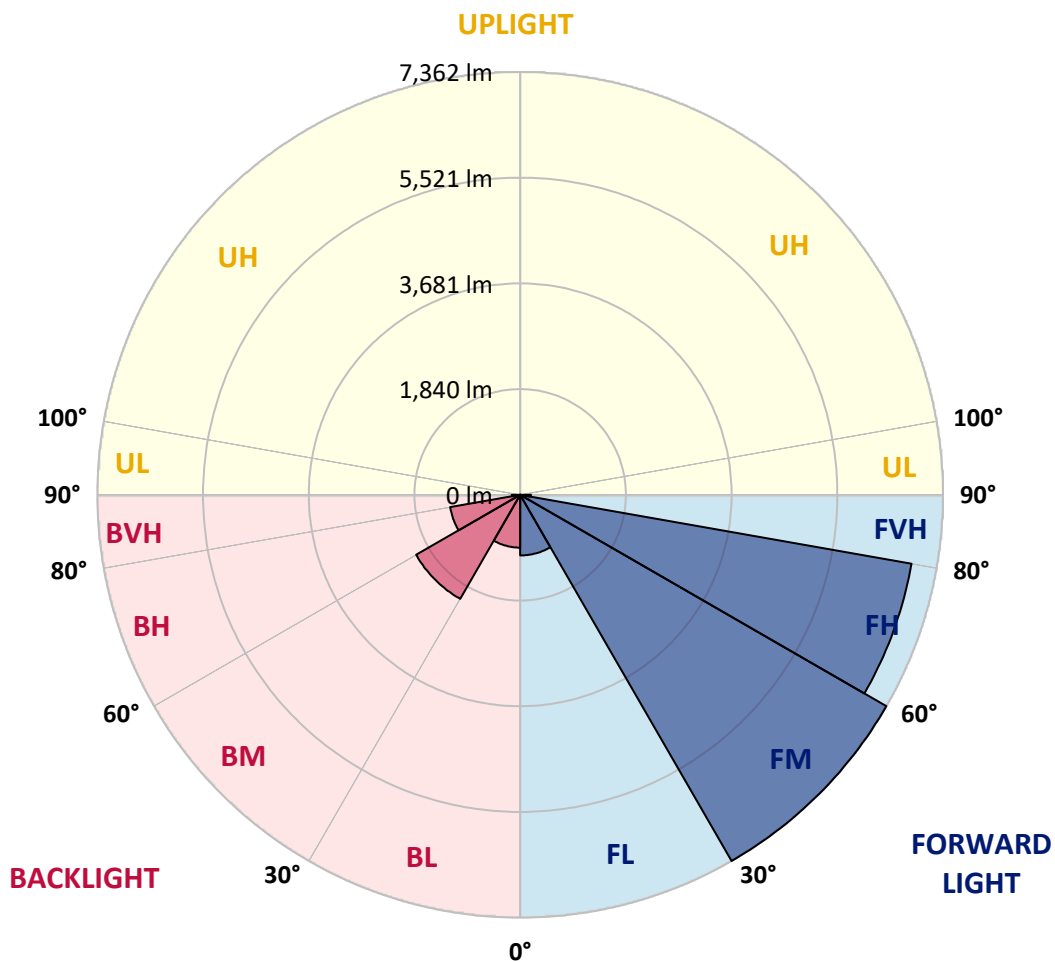
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1054.6	5.3			
FM	(30°-60°)	7361.6	37.0			
FH	(60°-80°)	6918.1	34.7			G3/7500
FVH	(80°-90°)	185.3	0.9			G2/225
BL	(0°-30°)	920.3	4.6	B2/1000		
BM	(30°-60°)	2091.4	10.5	B2/2500		
BH	(60°-80°)	1238.3	6.2	B3/2500		G3/2500
BVH	(80°-90°)	144.4	0.7			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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	2460.6	2460.6	2460.6	2460.6	2460.6	2460.6	2460.6	2460.6	2460.6	2460.6	2460.6
2.5°	2446.5	2446.5	2452.9	2452.9	2452.9	2450.4	2442.7	2445.3	2440.2	2436.3	2430.0
5°	2396.8	2399.4	2407.0	2409.6	2413.4	2414.7	2414.7	2413.4	2414.7	2414.7	2410.8
7.5°	2328.0	2330.5	2339.5	2344.6	2356.0	2366.2	2371.3	2371.3	2377.7	2382.8	2384.1
10°	2285.9	2285.9	2291.0	2291.0	2299.9	2305.0	2321.6	2320.3	2338.2	2354.8	2362.4
12.5°	2280.8	2280.8	2278.3	2269.3	2264.2	2263.0	2279.5	2282.1	2308.9	2338.2	2352.2
15°	2297.4	2297.4	2289.7	2271.9	2252.8	2243.8	2260.4	2265.5	2294.8	2329.3	2350.9
17.5°	2350.9	2349.7	2333.1	2297.4	2264.2	2250.2	2255.3	2260.4	2287.2	2326.7	2353.5
20°	2469.5	2469.5	2433.8	2368.8	2311.4	2278.3	2270.6	2274.4	2293.6	2330.5	2365.0
22.5°	2677.3	2681.1	2617.4	2510.3	2412.1	2342.0	2311.4	2315.2	2324.2	2359.9	2398.1
25°	2983.3	2973.1	2882.6	2730.8	2577.9	2458.0	2395.5	2399.4	2399.4	2432.5	2472.0
27.5°	3307.1	3309.7	3179.6	3016.4	2815.0	2636.5	2537.1	2535.8	2534.5	2566.4	2608.5
30°	3673.0	3674.3	3523.8	3335.2	3104.4	2876.2	2727.0	2725.7	2714.3	2753.8	2808.6
32.5°	4073.3	4072.1	3897.4	3684.5	3428.2	3169.4	2975.6	2974.4	2965.4	3019.0	3085.3
35°	4517.0	4517.0	4343.6	4081.0	3804.3	3516.2	3291.8	3290.5	3295.6	3368.3	3430.8
37.5°	5051.2	5062.7	4853.6	4534.8	4232.7	3925.4	3664.1	3656.4	3618.2	3740.6	3843.8
40°	5608.3	5640.2	5423.5	5051.2	4724.8	4407.4	4119.2	4114.1	4081.0	4211.0	4378.0
42.5°	6211.3	6284.0	6043.1	5663.1	5307.4	4964.5	4675.1	4661.1	4533.6	4736.3	4997.6
45°	7001.8	7049.0	6699.6	6355.4	6020.1	5628.7	5284.5	5209.3	5081.8	5341.9	5681.0
47.5°	7539.8	7516.8	7298.8	7068.1	6852.6	6477.8	5948.7	5853.1	5697.6	6041.8	6415.3
50°	7873.8	7890.4	7768.0	7756.5	7745.1	7483.7	6698.4	6583.6	6403.9	6811.8	7247.8
52.5°	8094.4	8019.2	8040.8	8300.9	8615.8	8490.9	7546.2	7418.7	7233.8	7641.8	8133.9
55°	8002.6	7903.1	8103.3	8615.8	9356.5	9384.6	8476.9	8345.5	8187.4	8524.0	9199.7
57.5°	7622.7	7672.4	7988.6	8701.2	9862.7	10185.2	9546.5	9412.6	9101.6	9443.2	10212.0
60°	7088.5	7189.2	7672.4	8566.1	10217.1	10808.7	10720.7	10631.4	10096.0	10338.2	11275.3
62.5°	6514.8	6614.2	7208.3	8335.3	10057.7	11360.7	11873.2	11818.4	11193.7	11200.1	11949.7
65°	5667.0	5707.8	6314.6	7705.5	9615.3	11859.2	13027.0	12978.5	12242.9	11935.7	12138.4
67.5°	4279.9	4330.9	4829.3	6082.6	8269.0	11588.9	13948.7	13941.1	12874.0	12208.5	11689.6
69°	3160.5	3223.0	3629.7	4722.3	6837.3	10558.8	13992.1	14095.4	13044.8	12180.5	10931.0
70°	2312.7	2384.1	2760.2	3748.2	5695.0	9421.6	13621.1	13842.9	12979.8	12003.2	10339.5
72.5°	983.0	1007.2	1192.0	1691.8	2888.9	5681.0	11156.7	11623.3	11722.8	10755.1	8077.8
75°	615.8	623.4	696.1	868.2	1285.1	2349.7	7224.9	7861.1	8752.2	8344.3	5408.2
77.5°	464.1	470.4	512.5	597.9	798.1	877.1	3351.7	3996.8	5012.9	4908.4	2691.3
80°	355.7	359.5	387.6	434.7	562.2	549.5	1087.5	1366.7	2092.1	1846.1	952.4
82.5°	279.2	280.5	304.7	313.6	392.7	369.7	545.7	608.1	845.3	702.5	465.3
85°	247.3	251.2	275.4	229.5	251.2	223.1	299.6	325.1	448.8	423.3	175.9
87.5°	126.2	132.6	230.8	196.3	126.2	105.8	131.3	141.5	182.3	197.6	85.4
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°	2460.6	2460.6	2460.6	2460.6	2460.6	2460.6	2460.6	2460.6	2460.6	2460.6	2460.6
2.5°	2431.2	2432.5	2436.3	2442.7	2452.9	2465.7	2481.0	2496.3	2505.2	2511.6	2509.0
5°	2410.8	2412.1	2419.8	2431.2	2444.0	2463.1	2488.6	2507.7	2521.8	2530.7	2529.4
7.5°	2385.3	2389.2	2404.5	2417.2	2435.1	2450.4	2470.8	2488.6	2502.6	2511.6	2510.3
10°	2366.2	2370.1	2389.2	2405.7	2421.0	2423.6	2419.8	2414.7	2413.4	2419.8	2417.2
12.5°	2357.3	2365.0	2382.8	2394.3	2387.9	2363.7	2335.6	2324.2	2320.3	2333.1	2334.4
15°	2359.9	2366.2	2381.5	2373.9	2339.5	2298.7	2283.4	2292.3	2299.9	2307.6	2308.9
17.5°	2366.2	2370.1	2373.9	2345.8	2297.4	2270.6	2265.5	2256.6	2233.6	2220.9	2219.6
20°	2377.7	2382.8	2376.4	2331.8	2288.5	2252.8	2191.6	2136.7	2084.5	2056.4	2044.9
22.5°	2417.2	2421.0	2401.9	2358.6	2292.3	2176.3	2052.6	1958.3	1877.9	1834.6	1818.0
25°	2495.0	2501.4	2474.6	2419.8	2246.4	2043.7	1869.0	1741.5	1640.8	1588.5	1574.5
27.5°	2631.4	2637.8	2608.5	2465.7	2139.3	1866.5	1654.8	1528.6	1441.9	1397.3	1390.9
30°	2835.4	2844.3	2817.5	2464.4	1976.1	1640.8	1445.7	1371.8	1322.1	1291.5	1290.2
32.5°	3118.4	3151.6	3041.9	2421.0	1774.7	1412.6	1287.7	1262.2	1237.9	1217.5	1217.5
35°	3477.9	3555.7	3263.8	2330.5	1552.8	1257.1	1199.7	1175.5	1144.9	1123.2	1120.6
37.5°	3907.6	4028.7	3421.8	2169.9	1361.6	1181.8	1146.1	1106.6	1058.2	1016.1	1005.9
40°	4497.9	4525.9	3499.6	1908.5	1218.8	1141.0	1096.4	1046.7	985.5	938.3	933.2
42.5°	5090.7	4998.9	3484.3	1628.1	1137.2	1104.1	1045.4	990.6	935.8	896.3	896.3
45°	5765.1	5412.0	3368.3	1346.3	1063.3	1062.0	998.3	946.0	903.9	874.6	868.2
47.5°	6410.2	5783.0	3168.1	1138.5	986.8	1019.9	967.7	925.6	887.3	859.3	854.2
50°	7193.0	6212.6	2955.2	993.2	912.8	983.0	954.9	933.2	896.3	847.8	842.7
52.5°	7970.7	6714.9	2790.8	883.5	847.8	953.6	962.6	965.1	930.7	836.3	830.0
55°	8805.8	7251.7	2617.4	798.1	794.3	939.6	980.4	977.9	961.3	838.9	828.7
57.5°	9600.0	7791.0	2358.6	738.2	752.2	925.6	984.2	943.4	914.1	851.6	835.1
60°	10257.9	8237.2	1978.7	696.1	716.5	897.5	958.7	897.5	847.8	849.1	833.8
62.5°	10577.9	8362.1	1513.3	647.7	687.2	851.6	921.8	863.1	817.2	854.2	845.3
65°	10334.4	8006.4	1078.6	603.0	651.5	798.1	900.1	833.8	801.9	879.7	869.5
67.5°	9459.8	7037.5	782.8	563.5	617.1	743.3	859.3	807.0	786.6	898.8	875.9
69°	8530.4	6076.2	678.3	540.6	592.8	713.9	832.5	793.0	775.1	872.0	838.9
70°	7757.8	5335.5	626.0	526.5	572.4	697.4	812.1	784.1	763.7	840.2	800.6
72.5°	5562.4	3448.6	526.5	484.5	518.9	660.4	767.5	750.9	720.3	758.6	733.1
75°	3360.7	1800.2	447.5	441.1	462.8	609.4	715.2	694.8	664.2	668.1	655.3
77.5°	1543.9	831.2	374.8	390.1	404.1	545.7	651.5	628.5	600.5	590.3	591.6
80°	677.0	485.7	313.6	332.8	340.4	490.8	582.6	557.1	526.5	581.4	539.3
82.5°	365.9	281.8	244.8	257.5	279.2	427.1	506.1	473.0	443.7	516.3	416.9
85°	147.9	144.1	165.7	178.5	193.8	307.3	423.3	388.8	353.1	316.2	308.5
87.5°	63.7	68.8	81.6	86.7	103.3	191.2	284.3	248.6	249.9	214.2	210.4
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)