

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: P196850

Luminaire Tested: **NAV-AF-02-D-UNV-T4W-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196850
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-T4W-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7670 lumens
Efficiency: N/A
Efficacy: 116.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

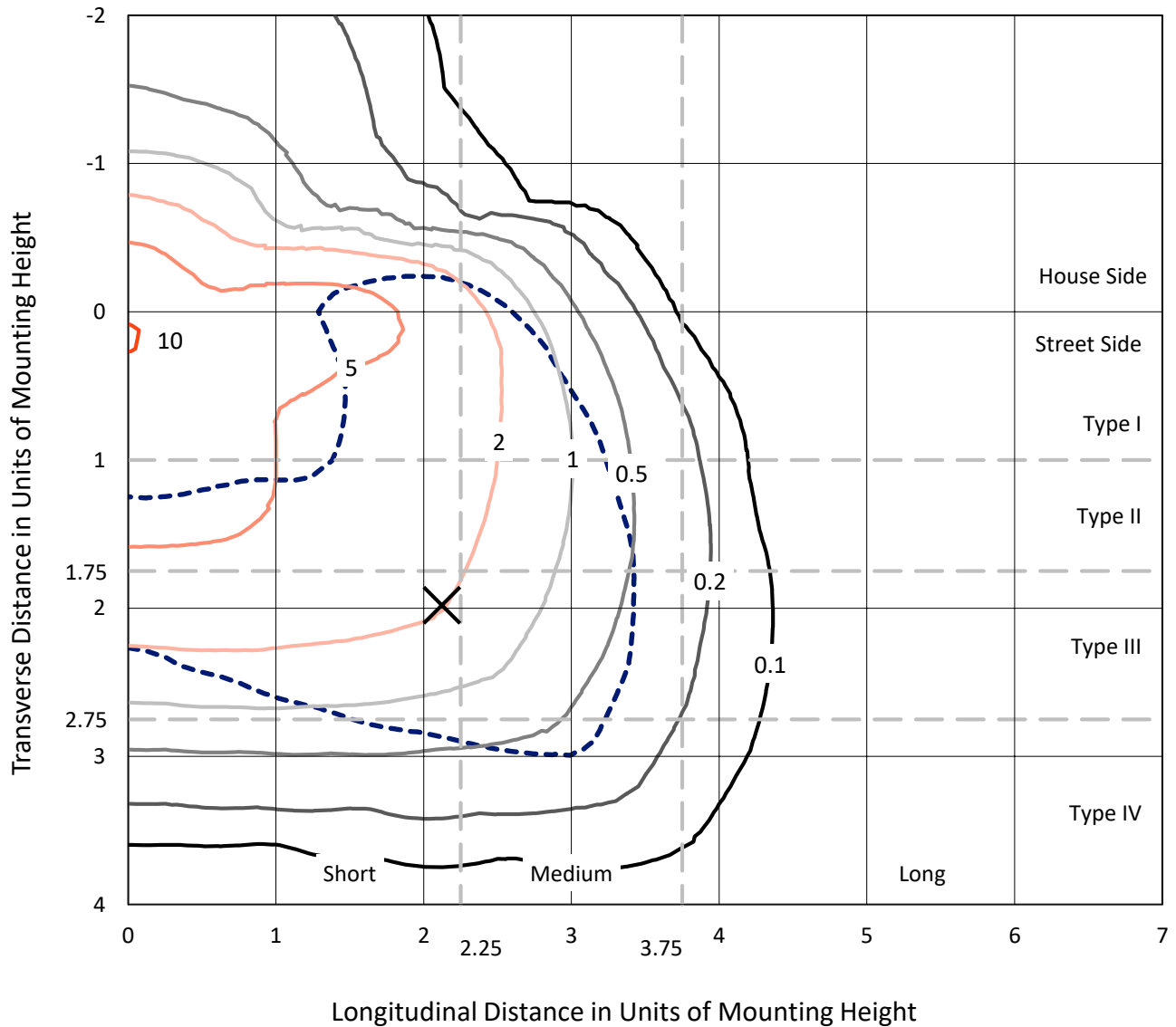
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

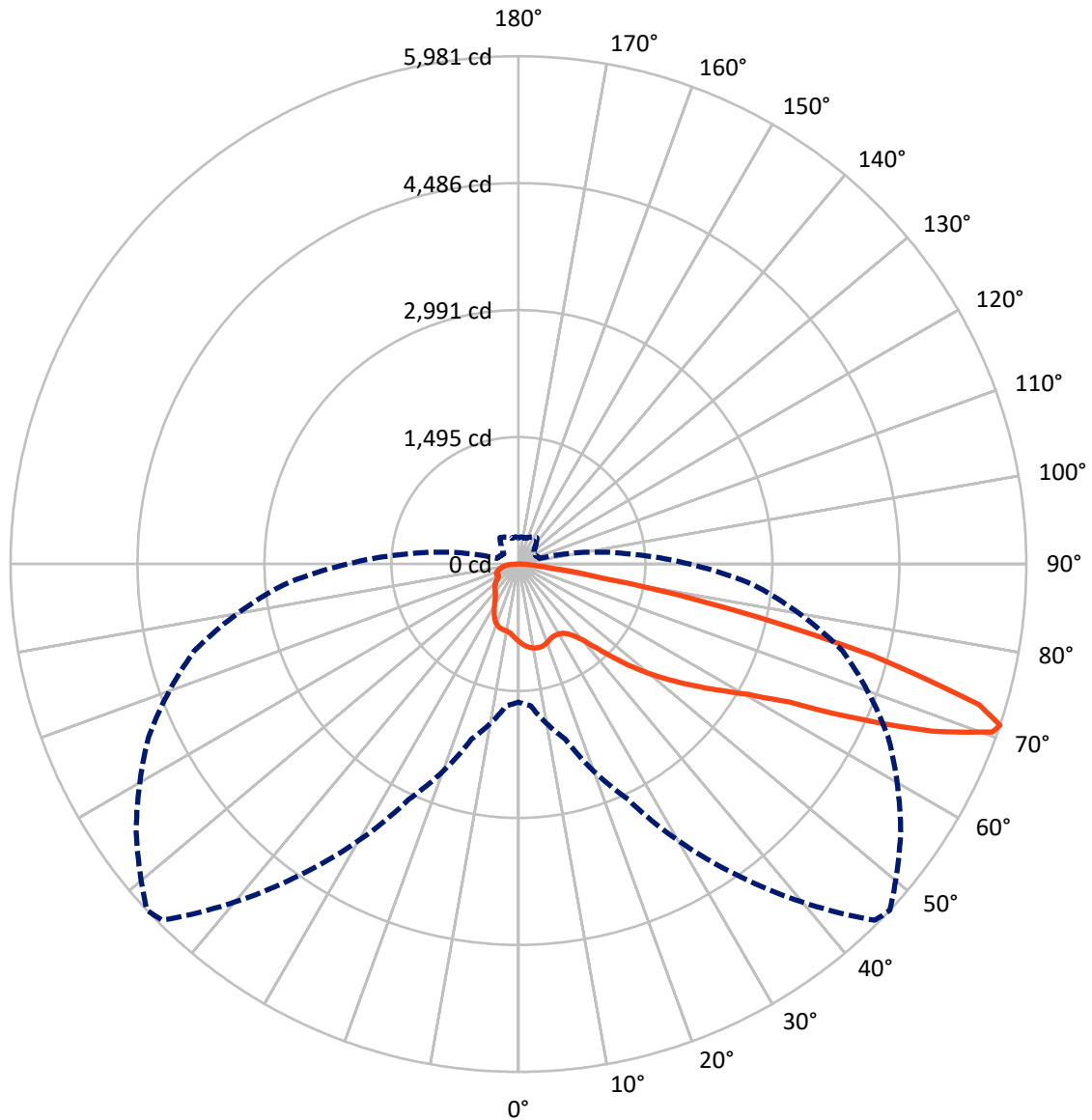
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.5 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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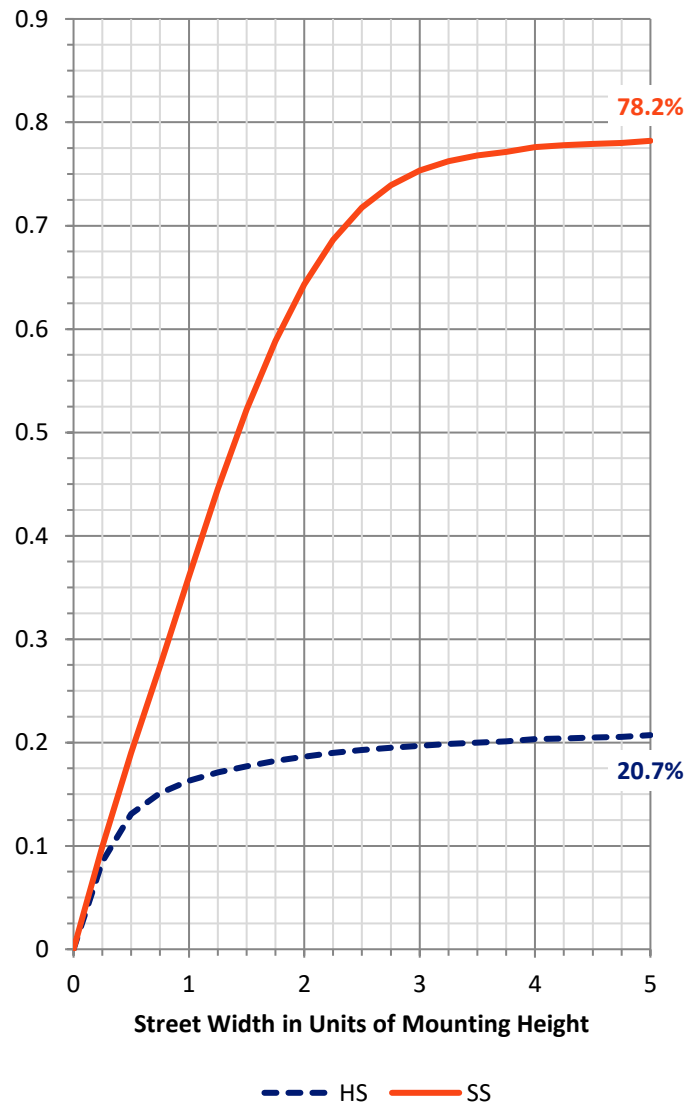
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1643.8	0.0	1643.8
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	6026.2	0.0	6026.2
	% Fixture	78.6	0.0	78.6
Total	Lumens	7670.0	0.0	7670.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.1	1.1
10°-20°	254.8	3.3
20°-30°	378.6	4.9
30°-40°	543.6	7.1
40°-50°	963.8	12.6
50°-60°	1649.2	21.5
60°-70°	2341.3	30.5
70°-80°	1282.3	16.7
80°-90°	169.3	2.2
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°	7670.0	100.0
0°-180°	7670.0	100.0



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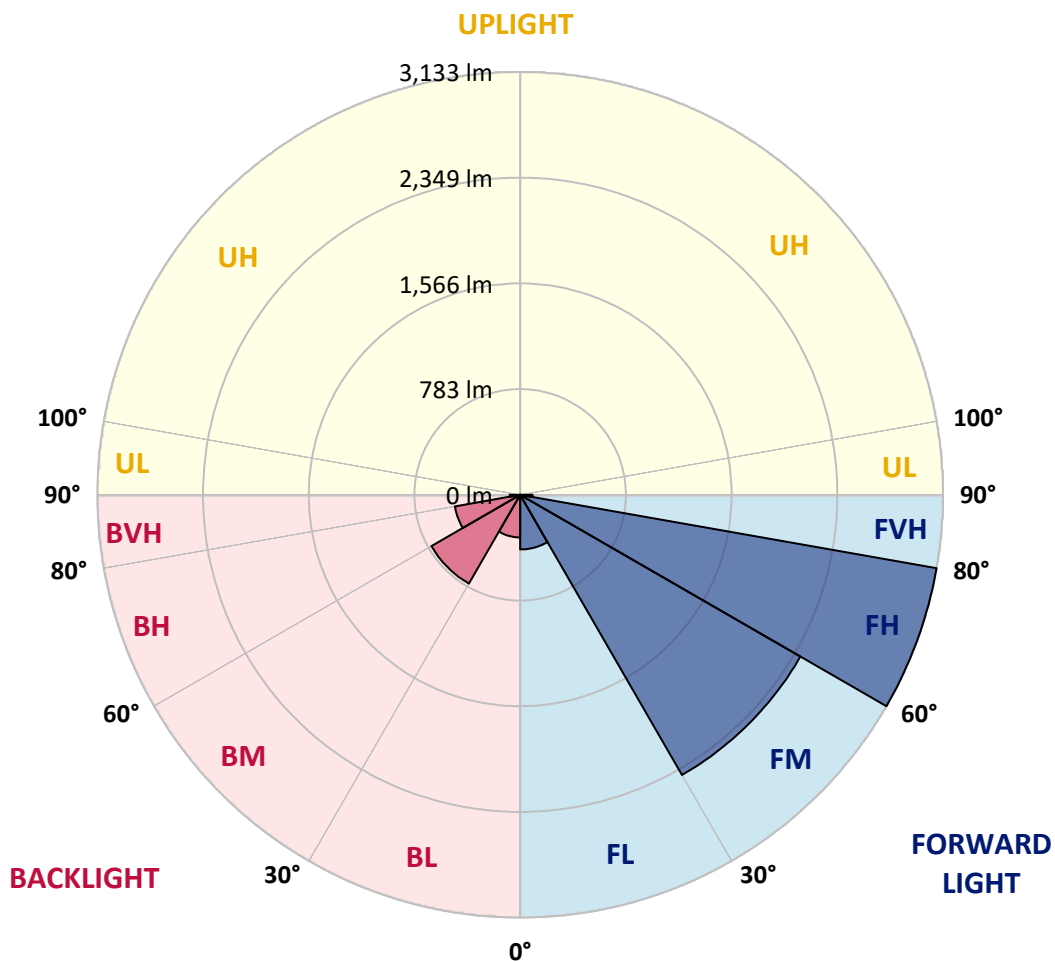
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	404.8	5.3			
FM (30°-60°)	2397.1	31.3			
FH (60°-80°)	3132.5	40.8			G2/5000
FVH (80°-90°)	91.8	1.2			G1/100
BL (0°-30°)	315.7	4.1	B1/500		
BM (30°-60°)	759.5	9.9	B1/1000		
BH (60°-80°)	491.1	6.4	B1/500		G1/500
BVH (80°-90°)	77.5	1.0			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	912.1	912.1	912.1	912.1	912.1	912.1	912.1	912.1	912.1	912.1	912.1
2.5°	967.7	965.8	966.7	963.3	954.8	945.8	945.8	936.5	926.5	916.5	905.6
5°	1027.9	1025.0	1022.4	1011.5	995.2	976.7	973.7	954.8	934.5	914.1	894.2
7.5°	1078.1	1075.1	1067.7	1047.8	1024.0	996.6	993.0	968.2	941.4	913.1	885.2
10°	1113.9	1111.9	1097.5	1072.2	1044.3	1012.0	1006.1	980.7	948.9	913.6	878.3
12.5°	1133.8	1130.9	1113.4	1083.6	1050.7	1018.0	1012.0	987.6	951.3	912.7	871.4
15°	1125.8	1124.4	1107.9	1077.7	1044.8	1016.4	1011.5	986.6	949.9	909.1	864.9
17.5°	1092.0	1095.6	1082.5	1052.7	1026.0	1006.1	1000.6	977.3	942.4	900.7	855.0
20°	1045.3	1049.3	1042.8	1012.5	997.1	984.2	981.1	962.2	930.1	888.3	843.1
22.5°	995.6	999.0	999.6	971.2	966.3	961.3	958.9	945.4	919.1	880.7	835.1
25°	961.3	965.3	966.3	941.4	944.4	945.8	945.4	936.0	917.0	880.7	836.1
27.5°	952.3	954.4	953.4	930.5	936.0	944.4	944.9	942.9	925.0	890.7	849.9
30°	983.3	984.2	971.8	937.5	942.9	953.9	954.4	953.4	942.0	916.5	881.2
32.5°	1116.4	1115.4	1072.6	984.2	965.3	969.2	970.8	979.7	980.7	959.3	926.5
35°	1319.2	1318.6	1268.9	1117.8	1028.9	1008.0	1010.0	1024.0	1036.4	1021.9	1003.0
37.5°	1542.3	1543.9	1513.6	1308.7	1166.2	1079.2	1077.1	1087.5	1110.0	1114.9	1117.4
40°	1789.8	1797.4	1795.9	1528.0	1358.4	1200.4	1180.5	1168.5	1211.8	1239.1	1274.4
42.5°	2072.7	2070.7	2071.7	1768.5	1578.1	1391.2	1354.5	1298.8	1349.1	1396.3	1473.8
45°	2315.8	2323.7	2329.7	2024.5	1824.2	1609.5	1572.1	1470.7	1516.0	1586.6	1704.9
47.5°	2560.3	2546.4	2557.3	2309.3	2098.1	1858.5	1810.3	1673.6	1715.8	1815.3	1995.2
50°	2845.1	2838.7	2789.0	2681.1	2429.1	2111.0	2047.8	1885.3	1947.0	2079.6	2353.6
52.5°	3100.7	3065.9	3027.0	2973.4	2754.7	2366.4	2286.5	2105.5	2218.8	2383.4	2798.4
55°	3194.0	3170.7	3217.4	3286.9	3099.1	2626.9	2537.4	2362.5	2525.5	2730.8	3321.8
57.5°	3293.5	3301.4	3406.8	3547.4	3425.2	2904.7	2807.9	2666.7	2862.0	3119.5	3906.8
60°	3343.3	3375.0	3585.3	3849.2	3735.3	3209.5	3116.5	3016.1	3235.2	3549.0	4490.3
62.5°	3351.6	3394.3	3692.1	3955.0	4162.3	3676.2	3568.9	3460.0	3701.6	4023.7	4912.9
65°	3196.6	3262.2	3682.7	4085.3	4551.5	4456.0	4388.0	4198.1	4325.9	4441.6	4985.0
67.5°	2740.8	2812.4	3318.3	4031.5	4863.6	5265.3	5252.3	4972.1	4808.0	4603.2	4450.5
70°	2011.6	2069.3	2555.3	3446.6	4727.4	5900.5	5923.4	5473.6	4942.7	4260.2	3309.4
71°	1626.9	1676.6	2134.8	3059.8	4462.0	5933.4	5981.1	5496.0	4802.5	3950.6	2770.6
72.5°	1012.5	1040.3	1417.6	2309.3	3842.2	5595.2	5675.8	5209.6	4361.2	3339.2	1958.4
75°	382.2	393.2	525.9	1018.6	2293.4	4203.5	4301.0	3937.1	3063.8	1906.2	819.7
77.5°	205.3	210.8	260.9	423.5	919.1	2409.7	2535.0	2245.8	1469.7	667.0	335.0
80°	137.6	141.2	180.4	251.0	422.5	917.6	1021.9	901.6	550.2	380.8	238.6
82.5°	88.9	91.0	122.8	165.0	272.9	322.6	368.3	384.7	343.5	272.9	144.1
85°	58.7	60.1	81.1	105.3	169.1	159.1	163.1	213.3	234.2	180.0	73.5
87.5°	33.8	34.8	48.7	54.2	76.1	59.6	64.6	101.4	139.2	117.4	42.3
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°	912.1	912.1	912.1	912.1	912.1	912.1	912.1	912.1	912.1	912.1	912.1
2.5°	900.7	896.7	887.7	882.3	879.7	878.8	877.8	879.7	879.7	878.8	876.8
5°	884.2	876.8	861.8	851.4	846.0	844.5	846.4	849.0	850.5	850.5	849.0
7.5°	872.3	861.4	841.6	827.1	818.7	816.1	821.6	830.6	836.5	839.5	839.9
10°	862.4	847.6	825.6	810.7	803.7	802.7	809.7	821.1	833.5	839.0	839.9
12.5°	853.5	836.5	812.7	798.8	793.8	796.3	805.7	816.1	830.6	838.6	839.0
15°	845.0	827.6	802.3	787.9	786.8	790.8	799.8	808.2	819.1	829.1	829.1
17.5°	835.1	816.1	789.8	776.4	776.4	779.9	785.8	790.3	797.3	806.8	806.3
20°	823.2	803.7	777.0	762.9	760.0	758.0	758.0	759.1	765.0	773.4	774.8
22.5°	814.2	794.4	765.9	749.1	735.7	722.8	717.3	715.2	720.7	728.6	730.6
25°	814.2	794.4	762.5	734.1	701.3	676.6	666.1	663.1	668.5	676.0	678.9
27.5°	827.6	807.8	770.4	720.7	660.6	620.8	608.3	606.0	610.9	616.9	619.8
30°	858.9	839.5	793.3	705.3	615.3	563.1	549.2	546.8	549.2	551.8	555.2
32.5°	911.1	894.8	830.6	691.4	569.6	511.0	494.1	490.1	491.1	491.5	494.6
35°	996.1	988.7	880.3	675.0	526.4	468.1	450.8	442.8	442.4	444.9	448.3
37.5°	1126.4	1130.9	944.4	651.1	490.6	437.9	420.5	412.6	408.6	413.5	417.5
40°	1310.2	1320.6	1018.6	618.9	461.3	420.0	401.6	394.2	388.8	387.3	389.2
42.5°	1549.3	1546.3	1094.0	577.6	429.5	408.1	388.8	380.8	371.8	360.3	357.9
45°	1832.6	1789.8	1157.2	526.8	393.2	396.6	376.7	365.8	352.0	335.0	333.0
47.5°	2167.1	2049.3	1196.0	472.6	359.4	381.8	363.4	346.5	326.0	315.1	313.7
50°	2570.3	2353.0	1223.2	417.5	329.1	362.8	344.5	322.1	302.2	299.3	298.8
52.5°	3047.5	2711.4	1257.0	367.7	305.2	338.4	325.6	302.7	286.8	288.3	288.3
55°	3555.0	3082.2	1258.0	328.6	284.3	310.2	311.6	293.3	280.8	285.8	287.3
57.5°	4017.7	3406.2	1159.1	300.7	264.4	287.8	307.1	296.7	287.3	304.8	306.2
60°	4421.2	3655.9	946.4	277.8	248.0	279.3	317.1	318.2	316.1	363.4	366.8
62.5°	4568.9	3658.3	672.1	258.5	239.1	284.3	338.0	339.5	339.5	383.3	389.7
65°	4362.1	3353.6	447.3	247.0	233.2	295.2	354.9	348.4	333.0	363.4	356.4
67.5°	3633.4	2610.5	327.0	239.6	224.6	295.8	369.9	353.5	327.0	352.9	341.0
70°	2497.2	1661.2	273.9	232.6	214.7	282.9	377.7	352.0	318.2	329.1	313.1
71°	2010.1	1325.7	259.9	230.1	210.8	275.4	378.8	349.9	313.7	320.5	306.2
72.5°	1324.1	816.6	243.1	224.6	204.8	262.4	376.3	345.5	307.7	308.2	298.8
75°	522.4	338.4	218.7	212.3	187.9	241.6	365.4	336.0	296.2	286.3	282.3
77.5°	264.0	221.1	192.4	194.8	168.0	220.1	349.9	320.5	280.4	266.9	264.0
80°	192.9	168.0	164.6	169.1	145.7	199.3	330.5	299.7	259.9	273.9	267.9
82.5°	117.4	102.3	128.7	139.7	121.9	178.0	307.7	275.4	234.2	215.7	208.8
85°	55.7	60.1	93.0	102.9	89.9	142.1	281.4	248.6	204.4	176.5	179.4
87.5°	27.4	33.4	53.2	61.6	59.1	104.4	212.3	192.9	161.0	132.8	129.7
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)