

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: P270333

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270333
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
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-AFL-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10842.4 lumens
Efficiency: N/A
Efficacy: 96.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G1

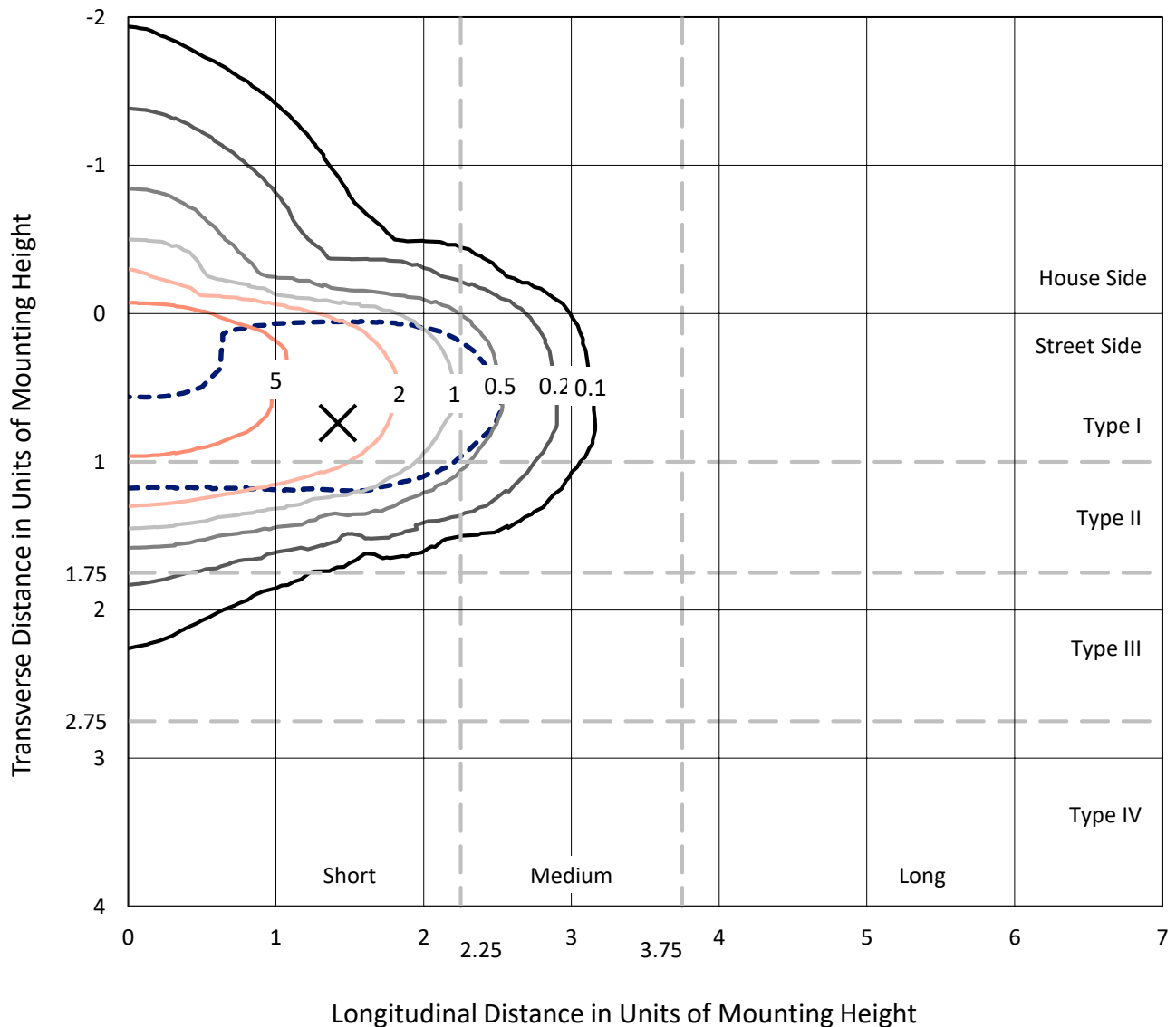
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P270333
 CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-7027

Iso-Footcandle Lines of Horizontal Illumination

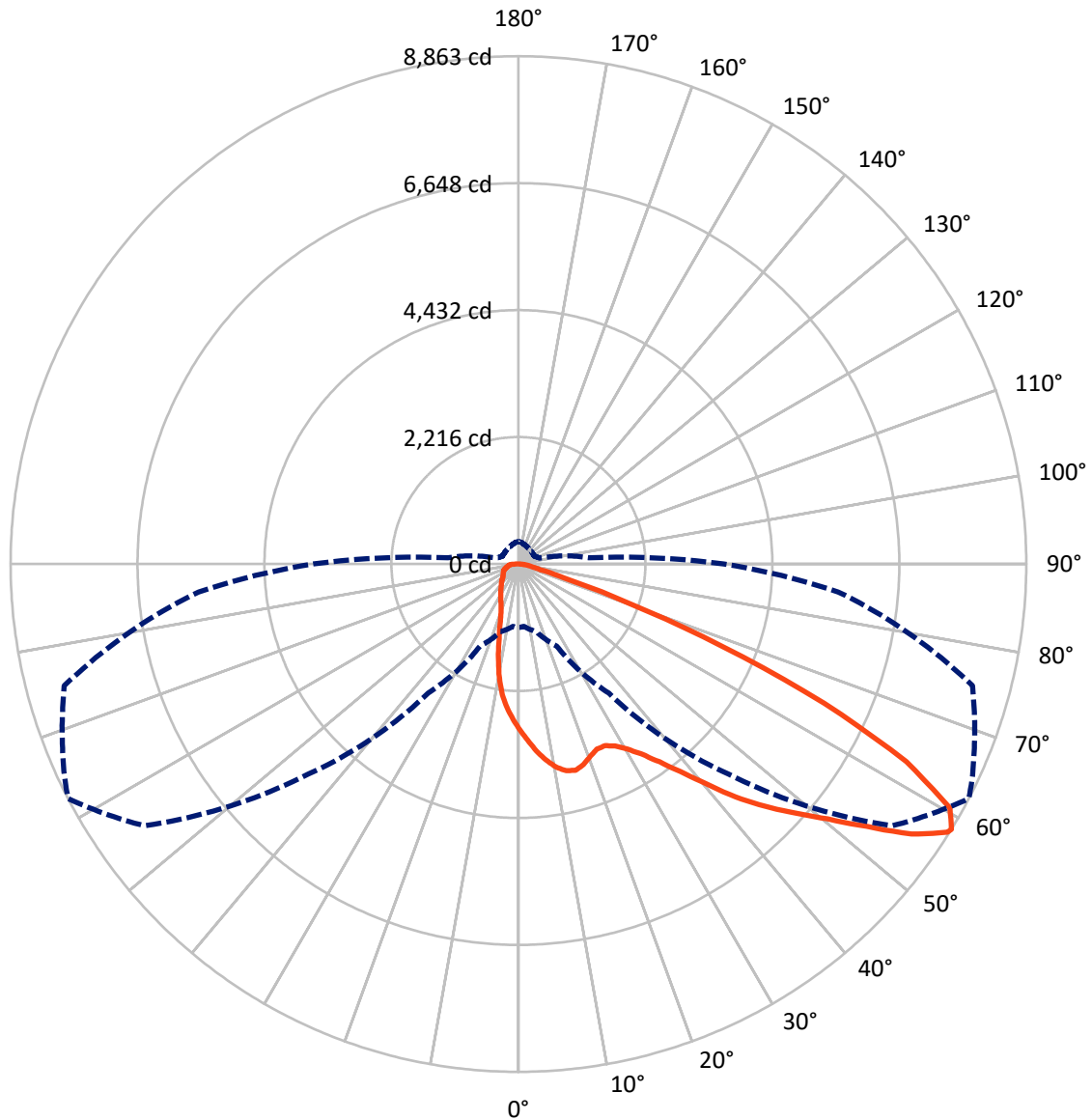
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.5 fc
 Type II - Short - Full Cutoff

REPORT NUMBER: P270333
CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-7027

Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

REPORT NUMBER: P270333

CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-7027

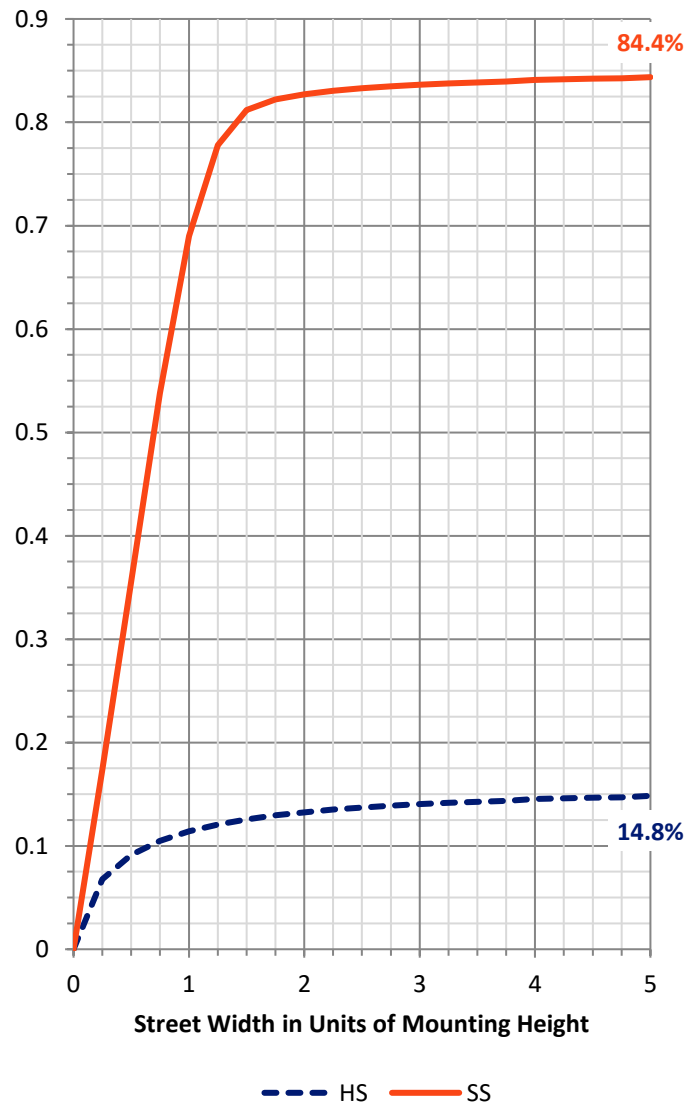
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1664.7	0.0	1664.7
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	9177.7	0.0	9177.7
	% Fixture	84.6	0.0	84.6
Total	Lumens	10842.4	0.0	10842.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	258.8	2.4
10°-20°	653.0	6.0
20°-30°	1058.3	9.8
30°-40°	1689.7	15.6
40°-50°	2457.7	22.7
50°-60°	2571.7	23.7
60°-70°	1567.8	14.5
70°-80°	438.5	4.0
80°-90°	147.0	1.4
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°	10842.4	100.0
0°-180°	10842.4	100.0



REPORT NUMBER: P270333

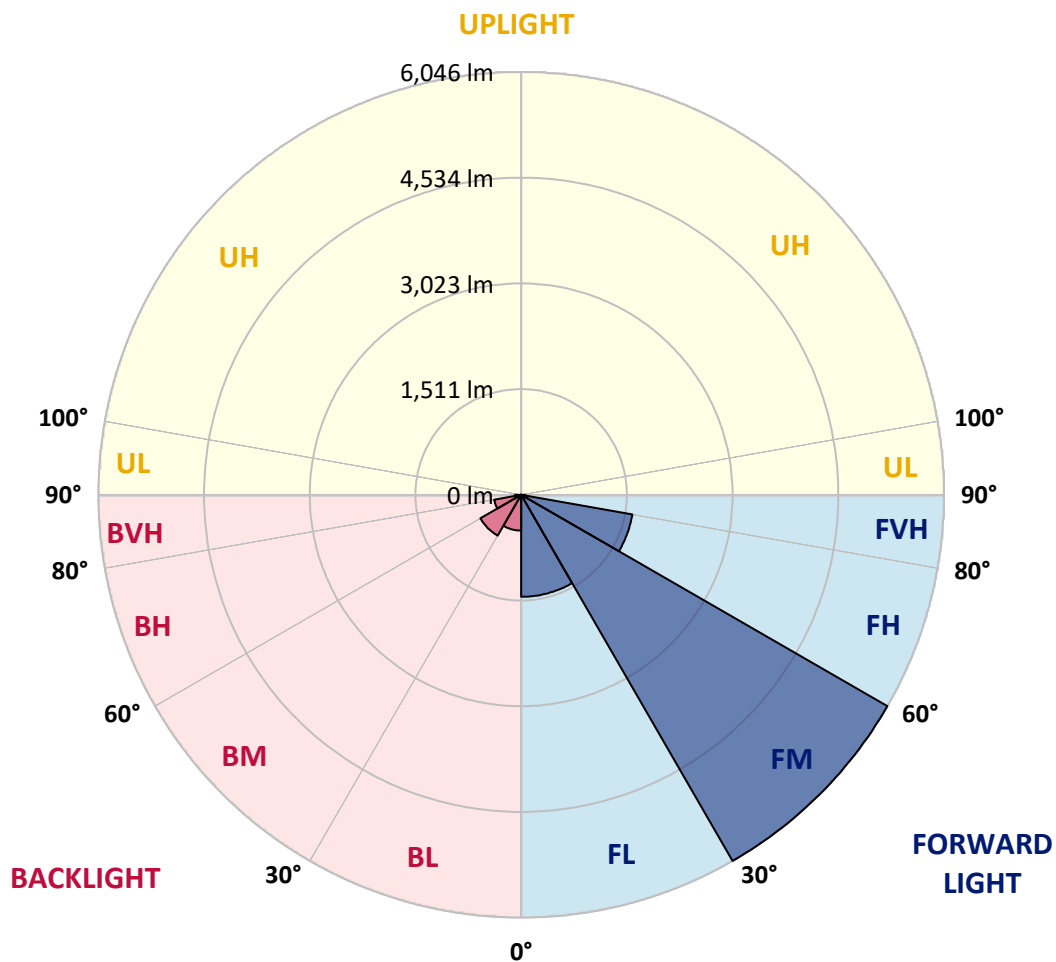
CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-7027

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1458.3	13.5			
FM	(30°-60°)	6045.9	55.8			
FH	(60°-80°)	1614.4	14.9			G1/1800
FVH	(80°-90°)	59.1	0.5			G1/100
BL	(0°-30°)	511.7	4.7	B2/1000		
BM	(30°-60°)	673.2	6.2	B1/1000		
BH	(60°-80°)	391.9	3.6	B1/500		G1/500
BVH	(80°-90°)	87.8	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G1

Type II Short





REPORT NUMBER: P270333

CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-7027

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	2894.9	2894.9	2894.9	2894.9	2894.9	2894.9	2894.9	2894.9	2894.9	2894.9	2894.9
2.5°	3285.8	3283.8	3256.0	3237.8	3216.0	3165.8	3115.9	3078.5	3059.4	2987.0	2916.5
5°	3557.6	3549.5	3533.8	3514.2	3485.8	3422.7	3343.4	3275.0	3247.9	3119.2	2989.6
7.5°	3413.9	3426.9	3475.0	3529.1	3586.0	3590.0	3533.8	3452.5	3422.7	3250.5	3060.9
10°	3016.1	3010.7	3071.0	3176.8	3364.4	3550.1	3642.9	3603.0	3571.8	3375.3	3132.0
12.5°	2895.5	2894.2	2904.3	2931.4	3049.3	3304.1	3615.1	3701.9	3691.0	3507.4	3207.9
15°	2932.1	2933.4	2932.7	2936.2	2968.7	3090.0	3460.0	3735.2	3769.0	3638.2	3285.2
17.5°	3049.3	3044.6	3029.8	3013.5	3018.1	3061.6	3292.6	3678.2	3779.9	3754.7	3350.1
20°	3230.2	3230.2	3190.3	3144.8	3115.1	3124.6	3222.8	3580.6	3729.8	3853.6	3398.9
22.5°	3457.2	3460.7	3401.7	3319.1	3251.2	3225.5	3262.9	3508.2	3668.7	3945.1	3442.3
25°	3739.1	3738.6	3652.5	3533.8	3426.9	3365.1	3364.4	3511.6	3649.8	4052.3	3487.8
27.5°	4088.1	4056.3	3956.0	3787.3	3636.2	3541.9	3499.3	3597.0	3689.7	4183.8	3548.8
30°	4481.9	4449.3	4318.0	4101.0	3896.4	3758.9	3688.4	3744.7	3811.7	4351.1	3640.9
32.5°	4871.5	4879.0	4724.5	4479.8	4217.0	4023.1	3918.8	3953.4	4000.2	4555.8	3765.6
35°	5442.1	5441.5	5239.5	4933.9	4621.5	4353.1	4221.0	4239.3	4282.0	4844.4	3940.4
37.5°	5867.6	5860.8	5730.7	5460.3	5108.8	4786.8	4595.6	4598.5	4635.1	5206.9	4170.8
40°	5910.9	5909.7	5909.1	5870.3	5629.8	5326.2	5087.0	5037.5	5052.4	5591.9	4415.4
42.5°	5579.6	5629.0	5771.4	5989.5	6056.7	5897.5	5671.1	5560.7	5528.2	6033.6	4674.3
45°	5107.4	5132.3	5381.7	5872.4	6271.4	6434.1	6264.1	6031.0	5975.3	6463.2	4885.1
47.5°	4887.8	4877.0	5021.3	5555.9	6250.4	6861.1	6873.2	6491.1	6396.9	6833.9	5064.6
50°	4416.8	4402.7	4584.9	5090.3	6021.5	7073.2	7498.7	6992.4	6818.3	7186.4	5227.2
52.5°	3478.2	3464.8	3709.5	4360.6	5509.1	6993.8	8025.8	7607.8	7310.9	7525.8	5379.1
55°	2263.3	2264.6	2497.7	3169.3	4458.2	6531.8	8273.2	8318.7	7985.9	7865.3	5501.7
57.5°	1246.2	1234.6	1400.6	1813.4	3067.0	5482.0	8067.3	8831.0	8657.4	8156.7	5590.5
58°	1107.9	1094.3	1222.5	1578.2	2749.8	5185.9	7963.6	8863.4	8743.6	8204.8	5603.4
60°	789.4	766.4	746.8	889.7	1584.3	3739.1	7272.4	8652.7	8768.5	8301.1	5591.2
62.5°	665.5	639.1	568.5	563.1	746.1	1828.9	5751.0	7599.0	7923.6	8079.4	5394.6
65°	618.0	591.5	498.6	465.5	506.1	789.4	3556.2	5867.6	6301.3	7309.0	4900.0
67.5°	584.1	552.9	453.4	409.9	418.2	472.2	1509.2	3837.5	4340.3	5699.6	3931.0
70°	553.6	519.1	417.4	367.2	360.5	359.1	589.6	2003.8	2488.2	3729.8	2633.3
72.5°	519.1	485.2	385.6	332.1	317.1	291.4	354.4	828.1	1135.1	1828.3	1206.9
75°	468.9	441.2	350.2	302.9	277.1	236.6	261.5	397.1	489.2	700.0	560.5
77.5°	412.7	390.4	314.4	278.6	244.0	193.1	200.0	269.0	302.2	394.4	324.6
80°	292.0	300.3	274.4	245.2	214.9	155.9	153.8	197.2	216.9	265.0	218.2
82.5°	201.3	207.4	223.6	193.9	173.5	121.4	113.1	136.9	147.1	159.9	105.7
85°	143.6	139.5	155.1	138.9	127.4	77.3	72.6	86.7	92.9	97.6	50.8
87.5°	87.5	86.7	89.4	71.9	66.5	39.3	35.9	41.3	44.0	42.7	24.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P270333

CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-7027

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2894.9	2894.9	2894.9	2894.9	2894.9	2894.9	2894.9	2894.9	2894.9	2894.9	2894.9
2.5°	2890.0	2856.9	2784.3	2726.1	2663.1	2615.0	2566.8	2539.8	2510.0	2493.1	2491.0
5°	2921.9	2854.3	2699.6	2556.0	2408.4	2275.4	2145.4	2049.2	1970.5	1925.8	1923.1
7.5°	2957.2	2850.9	2612.4	2363.6	2100.6	1839.1	1608.1	1444.7	1339.7	1291.0	1287.5
10°	2984.3	2836.6	2505.9	2118.9	1702.2	1356.6	1146.5	1050.4	1018.5	1010.4	1008.9
12.5°	3016.9	2826.3	2371.7	1805.2	1301.0	1032.7	969.0	963.0	969.7	973.8	974.4
15°	3047.3	2806.8	2190.7	1457.6	1018.5	923.0	924.3	937.2	950.8	956.9	957.6
17.5°	3061.6	2758.7	1952.9	1148.7	891.1	873.5	889.1	906.0	918.2	923.0	923.0
20°	3061.6	2681.4	1677.1	930.4	824.6	828.1	847.0	859.9	862.6	858.6	856.5
22.5°	3048.7	2585.9	1408.8	811.8	770.4	783.3	798.2	789.4	757.6	733.1	728.4
25°	3037.2	2472.7	1150.5	739.2	723.0	739.9	733.8	673.5	624.9	599.7	595.7
27.5°	3018.1	2335.9	935.1	679.7	677.0	690.4	630.3	572.0	547.5	534.0	531.3
30°	3013.5	2187.5	782.7	626.7	631.6	612.6	543.5	524.5	519.1	511.7	508.3
32.5°	3029.1	2039.1	687.2	583.4	588.2	525.9	499.4	502.2	501.4	491.9	488.6
35°	3071.8	1894.6	626.1	544.2	530.5	470.9	474.3	482.5	482.5	470.9	466.8
37.5°	3146.3	1760.5	587.5	511.0	464.2	442.4	451.3	462.2	462.2	454.1	450.6
40°	3225.5	1629.7	558.3	484.5	422.2	422.8	431.6	439.8	443.1	444.5	441.8
42.5°	3297.4	1494.2	527.1	456.1	403.2	407.9	412.1	418.2	432.4	441.8	440.4
45°	3339.4	1358.0	493.3	420.9	390.4	392.4	391.0	401.8	418.8	433.1	433.1
47.5°	3377.9	1246.2	465.5	385.6	377.5	377.5	373.3	384.2	399.7	416.8	418.2
50°	3414.5	1173.6	445.9	358.5	361.2	359.1	357.7	367.9	389.0	409.3	412.7
52.5°	3451.8	1149.3	428.2	338.8	344.2	341.5	343.0	357.2	380.8	401.8	405.2
55°	3504.1	1164.8	409.9	325.2	328.1	327.3	332.7	349.0	370.0	391.0	392.4
57.5°	3568.4	1221.8	394.4	315.0	312.4	316.5	325.2	340.8	361.2	386.2	388.2
58°	3581.4	1235.3	391.8	312.4	308.9	315.0	323.8	338.8	359.9	386.2	388.2
60°	3600.9	1283.5	385.0	307.0	297.5	308.3	319.2	334.1	357.2	389.7	393.6
62.5°	3506.1	1292.9	382.9	300.8	285.3	298.9	311.7	328.7	354.4	401.2	409.9
65°	3177.5	1195.4	368.7	290.7	275.2	291.4	305.0	324.6	362.6	435.7	439.8
67.5°	2550.6	992.7	334.1	275.2	263.7	282.5	299.6	324.6	365.9	441.2	443.9
70°	1753.8	746.1	290.7	258.3	250.1	271.7	297.5	332.1	354.4	417.4	409.3
72.5°	916.1	519.1	254.8	238.5	233.7	262.2	317.1	324.6	340.8	389.7	381.5
75°	461.5	353.0	224.2	216.1	215.6	258.8	355.1	312.4	326.7	366.6	384.2
77.5°	272.4	276.5	200.0	195.1	198.5	252.8	355.8	300.3	310.4	337.5	356.4
80°	186.4	228.3	180.9	179.7	182.3	232.4	328.1	285.3	291.4	319.2	339.5
82.5°	105.0	126.0	158.6	167.4	166.0	190.4	283.2	259.5	266.9	377.5	399.1
85°	50.8	75.8	132.8	156.6	141.7	126.8	230.3	230.3	232.4	270.4	273.8
87.5°	19.0	33.9	89.4	124.0	99.0	75.8	156.6	163.3	181.5	187.0	191.1
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)