

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: P270430

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270430
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-SL2-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16925.6 lumens
Efficiency: N/A
Efficacy: 88.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B3 - U0 - G3

Input Watts (W): 191
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

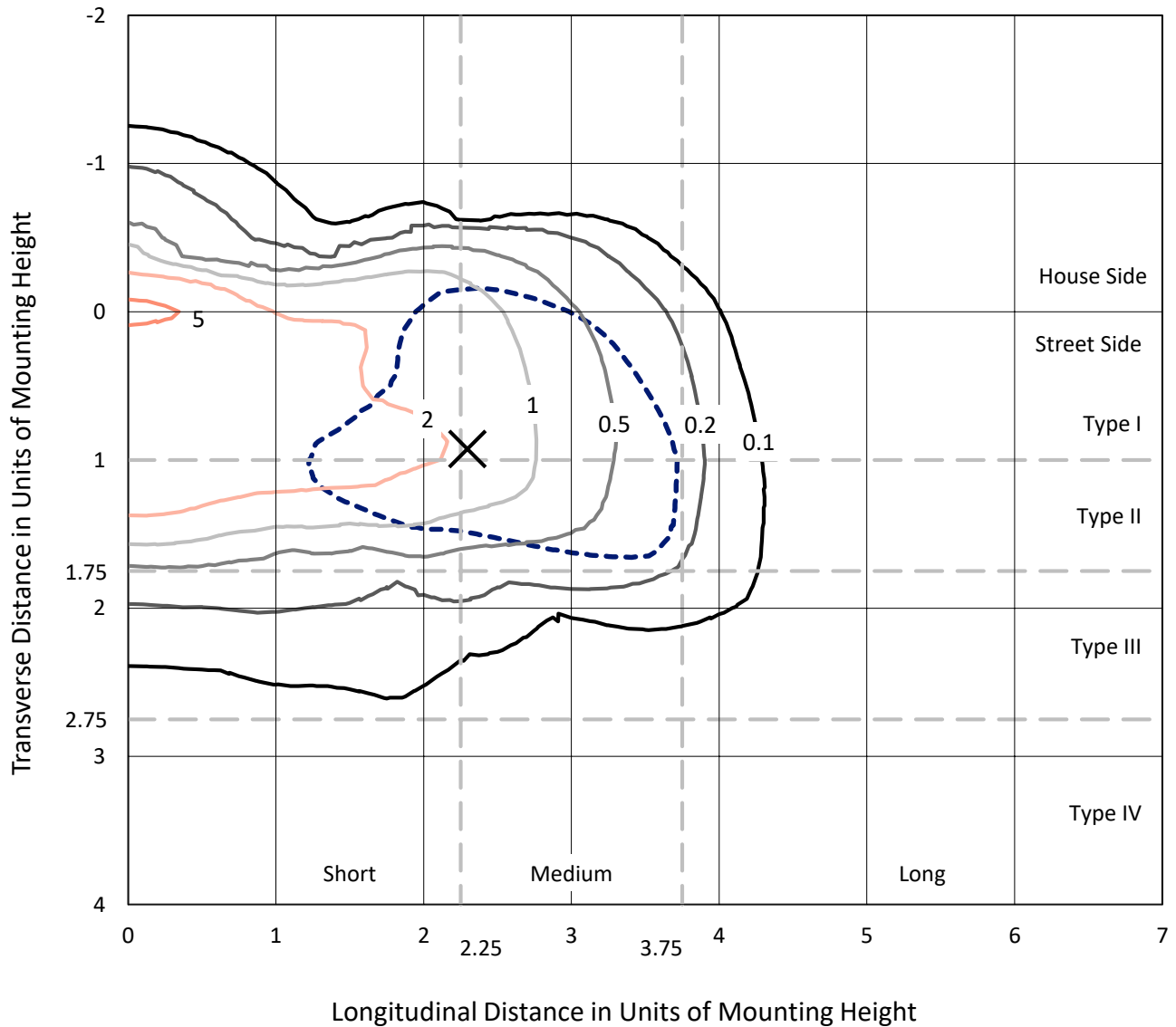


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Iso-Footcandle Lines of Horizontal Illumination

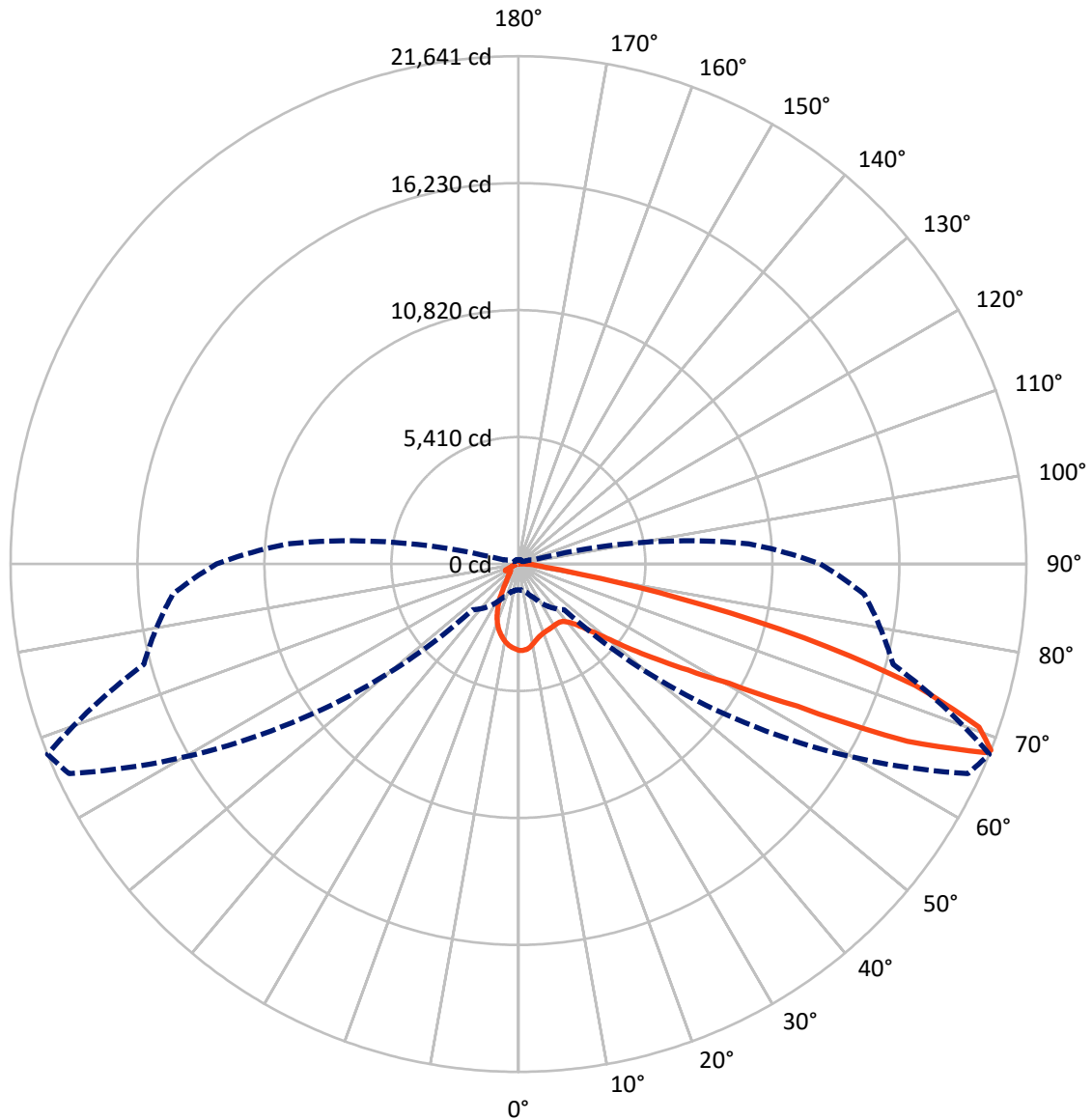
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.9 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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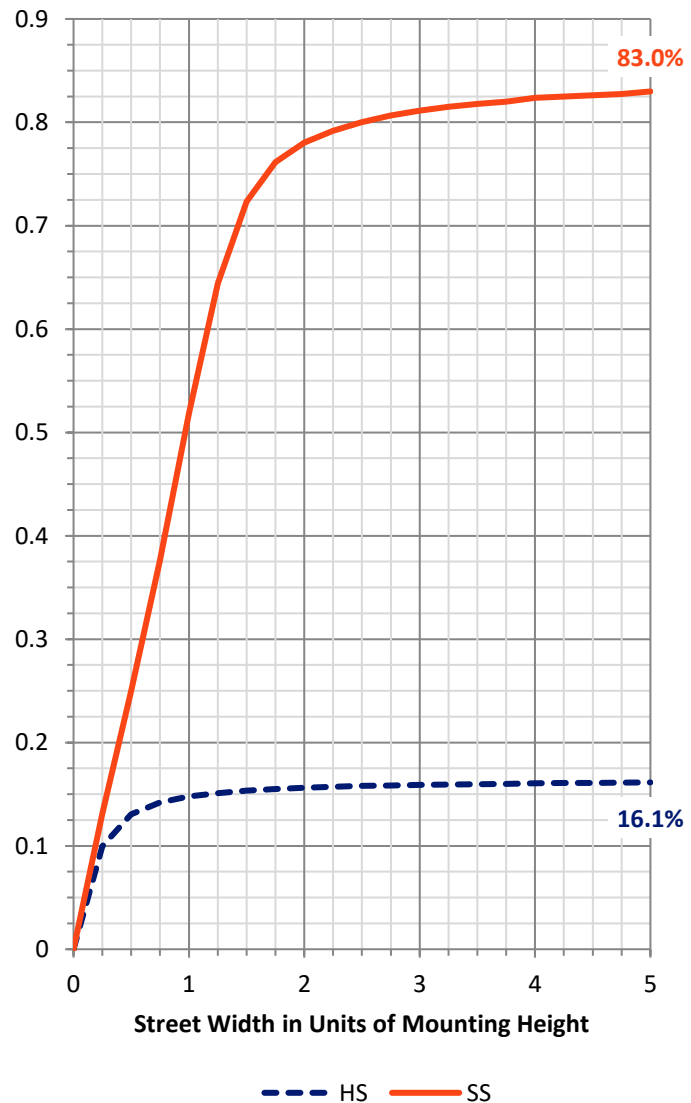
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2769.1	0.0	2769.1
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	14156.6	0.0	14156.6
	% Fixture	83.6	0.0	83.6
Total	Lumens	16925.6	0.0	16925.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	315.6	1.9
10°-20°	731.9	4.3
20°-30°	989.9	5.8
30°-40°	1395.7	8.2
40°-50°	2295.0	13.6
50°-60°	3557.5	21.0
60°-70°	4612.5	27.3
70°-80°	2646.9	15.6
80°-90°	380.8	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°	16925.6	100.0
0°-180°	16925.6	100.0



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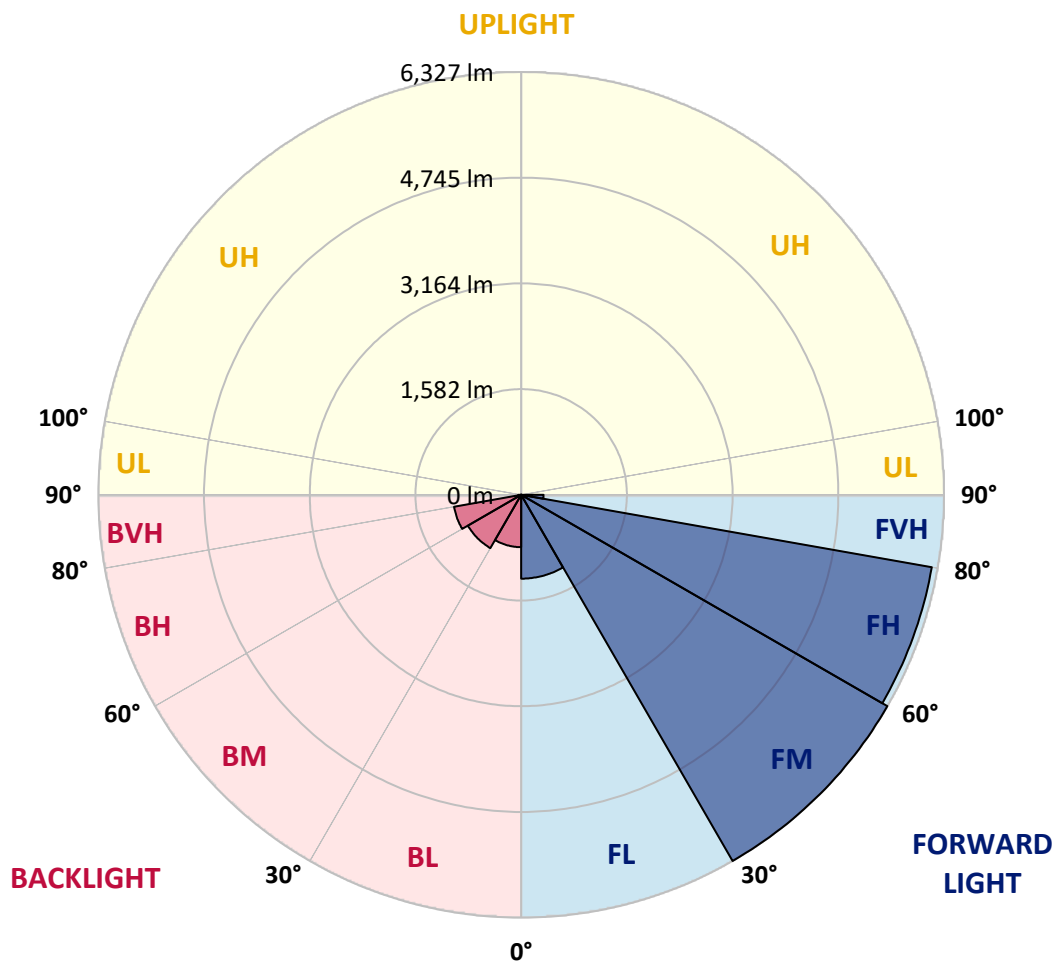
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1254.5	7.4			
FM (30°-60°)	6327.1	37.4			
FH (60°-80°)	6239.6	36.9			G3/7500
FVH (80°-90°)	335.4	2.0			G3/500
BL (0°-30°)	782.8	4.6	B2/1000		
BM (30°-60°)	921.0	5.4	B1/1000		
BH (60°-80°)	1019.8	6.0	B3/2500		G3/2500
BVH (80°-90°)	45.4	0.3			G1/100
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°	68°	75°	85°
0°	3683.0	3683.0	3683.0	3683.0	3683.0	3683.0	3683.0	3683.0	3683.0	3683.0	3683.0
2.5°	3584.4	3613.3	3613.3	3634.3	3653.0	3668.5	3681.8	3681.8	3681.8	3672.9	3665.2
5°	3207.5	3246.1	3251.7	3304.8	3374.5	3459.6	3554.7	3638.7	3655.3	3686.1	3698.3
7.5°	2945.5	2957.6	2978.6	3015.2	3085.9	3190.9	3340.1	3528.1	3573.4	3670.7	3721.6
10°	2759.7	2769.7	2787.4	2823.8	2888.0	2983.0	3130.1	3374.5	3449.6	3622.1	3722.7
12.5°	2623.7	2631.4	2648.1	2681.3	2746.4	2831.5	2982.0	3236.2	3329.1	3573.4	3738.1
15°	2517.5	2530.7	2544.1	2576.1	2642.5	2724.3	2876.8	3135.5	3236.2	3534.7	3767.0
17.5°	2475.5	2482.1	2484.4	2500.9	2560.7	2643.6	2796.2	3064.7	3168.7	3503.7	3789.1
20°	2502.0	2503.1	2481.1	2470.0	2504.3	2580.6	2728.7	3011.7	3117.8	3476.1	3797.9
22.5°	2618.1	2618.1	2560.7	2512.0	2488.8	2536.4	2683.3	2975.2	3090.3	3455.2	3797.9
25°	2839.3	2829.3	2739.8	2643.6	2540.8	2520.9	2654.6	2952.0	3069.2	3444.0	3783.5
27.5°	3130.1	3121.3	3007.3	2864.8	2678.9	2554.1	2644.7	2933.2	3048.2	3427.5	3752.5
30°	3483.8	3476.1	3346.7	3159.9	2885.7	2659.1	2667.8	2920.0	3031.7	3399.8	3700.6
32.5°	3836.5	3832.1	3729.4	3538.1	3170.9	2837.0	2728.7	2917.8	3022.7	3366.7	3637.5
35°	4191.4	4191.4	4128.4	3967.1	3554.7	3104.6	2855.8	2958.7	3039.3	3349.1	3583.3
37.5°	4715.6	4694.5	4577.4	4410.4	4037.8	3451.7	3061.6	3045.0	3103.6	3378.9	3565.6
40°	5527.1	5466.2	5173.2	4892.3	4565.1	3896.3	3362.3	3211.9	3247.3	3480.6	3607.8
42.5°	6376.2	6280.1	5892.0	5443.0	5110.3	4444.6	3756.9	3482.8	3481.7	3677.3	3741.5
45°	7104.9	7055.1	6634.9	6065.5	5732.8	5061.6	4255.6	3885.2	3845.5	3982.5	3999.1
47.5°	7528.2	7495.1	7241.9	6724.4	6471.3	5790.2	4887.9	4443.6	4368.4	4450.2	4424.7
50°	7411.0	7443.1	7370.1	7106.0	7265.1	6814.1	5694.0	5208.6	5066.0	5147.8	5085.9
52.5°	6794.2	6880.4	6945.5	6996.4	7721.7	8183.9	6706.7	6163.9	6045.7	6031.2	5971.6
55°	5682.9	5820.1	6025.7	6399.4	7599.0	9284.1	8475.8	7319.3	7146.8	7056.1	7079.5
57.5°	3867.6	4075.4	4518.7	5229.7	6961.1	9752.8	11091.7	8812.0	8520.1	8197.2	8272.3
60°	2130.6	2304.2	2831.5	3547.9	5505.0	9683.2	13410.3	11237.6	10318.9	9463.1	9618.0
62.5°	1378.7	1416.3	1808.7	2423.5	3378.9	8548.8	14698.2	15292.0	13345.0	11132.6	11350.4
65°	1107.8	1134.4	1326.7	1954.7	2353.9	5499.5	14755.7	19497.9	18214.3	13401.5	13408.0
67.5°	1082.4	1094.6	1206.2	1644.1	2207.9	2994.1	12754.7	21156.3	21453.7	16079.2	14784.6
68°	1097.9	1112.3	1225.1	1593.2	2206.9	2759.7	11788.3	21130.9	21640.6	16527.0	14784.6
70°	968.6	986.2	1249.4	1648.5	2112.9	2372.8	8072.2	20008.7	20829.1	17556.4	14028.3
72.5°	506.4	492.0	618.0	1301.4	2378.3	2472.1	4264.4	16716.1	17673.6	16259.5	12119.9
75°	394.7	359.3	346.0	514.1	2091.9	2563.9	2476.6	11881.2	12604.3	11720.8	8100.9
77.5°	371.4	328.4	303.0	304.0	921.0	2667.8	2003.4	6992.0	6992.0	5591.2	2585.0
80°	298.5	258.7	242.2	276.4	444.5	2458.9	2090.7	3186.5	2717.6	1445.1	712.0
82.5°	196.8	175.8	176.8	224.4	337.3	1641.8	2421.3	1573.3	1181.9	640.1	419.0
85°	125.0	107.3	119.5	157.1	252.1	731.8	2396.9	1093.4	782.9	359.3	208.9
87.5°	63.1	48.7	59.6	81.8	153.7	210.1	1973.5	976.3	580.5	149.3	113.8
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°	3683.0	3683.0	3683.0	3683.0	3683.0	3683.0	3683.0	3683.0	3683.0	3683.0	3683.0
2.5°	3665.2	3640.9	3628.8	3608.9	3584.4	3560.2	3543.5	3535.8	3531.3	3533.7	3532.6
5°	3691.8	3659.7	3607.8	3533.7	3457.3	3376.5	3314.7	3267.1	3237.3	3228.5	3226.3
7.5°	3711.5	3665.2	3567.9	3433.1	3302.4	3161.0	3040.6	2944.4	2879.1	2849.2	2848.2
10°	3708.4	3648.6	3494.9	3295.9	3104.6	2896.8	2707.8	2546.2	2429.0	2372.8	2370.4
12.5°	3711.5	3629.8	3405.4	3135.5	2861.5	2563.9	2283.1	2032.1	1857.4	1774.5	1771.2
15°	3724.9	3609.8	3313.6	2956.5	2577.2	2157.1	1755.7	1440.6	1281.4	1227.3	1227.3
17.5°	3723.7	3576.7	3207.5	2748.6	2240.1	1677.2	1198.5	1003.9	988.5	1038.3	1045.9
20°	3701.6	3523.6	3070.3	2502.0	1844.2	1160.9	812.6	784.9	908.8	1045.9	1061.3
22.5°	3667.4	3455.2	2912.2	2215.7	1383.1	756.3	626.8	668.9	837.0	1007.2	1031.6
25°	3619.8	3372.1	2730.8	1882.8	919.9	544.0	523.0	574.9	693.2	807.0	824.9
27.5°	3550.2	3267.1	2533.0	1522.4	587.1	447.7	455.5	492.0	542.8	591.5	601.4
30°	3462.8	3144.4	2317.4	1123.3	445.6	400.3	413.5	435.6	457.7	488.7	495.3
32.5°	3374.5	3019.6	2093.1	771.7	389.1	374.9	388.1	400.3	419.0	440.0	444.5
35°	3294.9	2903.4	1861.8	538.4	364.8	358.2	364.8	372.5	391.4	412.4	414.6
37.5°	3237.3	2808.3	1620.8	425.6	350.5	343.8	347.1	350.5	372.5	403.6	406.9
40°	3229.5	2745.3	1376.6	382.6	339.4	330.5	328.4	330.5	359.3	394.7	397.9
42.5°	3304.8	2748.6	1137.8	364.8	330.5	320.6	311.8	316.3	341.6	369.3	371.4
45°	3482.8	2826.0	931.0	357.2	322.9	315.1	301.8	304.0	316.3	330.5	332.8
47.5°	3796.7	2995.2	772.8	352.8	316.3	309.6	292.9	286.4	287.5	295.3	295.3
50°	4298.7	3278.3	676.7	348.3	310.6	298.5	279.7	266.4	263.2	267.5	268.7
52.5°	5047.2	3763.5	630.3	339.4	300.8	284.1	263.2	249.9	244.3	248.8	248.8
55°	6058.9	4538.6	608.2	327.3	288.5	266.4	247.7	236.7	232.2	235.4	235.4
57.5°	7212.0	5545.9	645.7	310.6	273.1	247.7	234.4	226.6	223.4	226.6	227.8
60°	8582.0	6863.8	904.5	289.7	256.5	231.0	223.4	218.8	216.8	220.1	220.1
62.5°	10402.9	8617.4	1399.6	273.1	238.8	215.7	213.3	211.2	208.9	212.3	212.3
65°	12368.8	10212.7	1440.6	263.2	223.4	202.3	203.5	203.5	201.2	204.5	204.5
67.5°	12994.5	10074.5	804.9	250.9	204.5	189.1	193.4	193.4	192.3	195.7	194.7
68°	12861.8	9855.7	700.9	247.7	201.2	185.8	190.3	191.2	190.3	193.4	192.3
70°	11873.3	8652.7	461.0	228.9	186.8	174.7	181.3	182.4	181.3	185.8	184.6
72.5°	9801.4	6490.1	340.5	200.1	169.2	160.3	166.9	168.1	169.2	173.6	172.5
75°	6224.7	3584.4	268.7	170.3	151.5	143.6	150.3	153.7	155.9	162.6	159.2
77.5°	1705.0	1087.9	217.7	144.8	130.4	127.1	131.6	136.1	138.2	146.0	140.4
80°	597.1	481.0	181.3	122.7	108.3	107.3	111.7	116.2	118.2	125.0	118.2
82.5°	362.6	314.0	144.8	96.2	85.1	84.0	89.6	94.1	96.2	96.2	91.7
85°	189.1	165.8	106.1	67.5	58.6	55.2	65.2	70.7	71.9	70.7	67.5
87.5°	106.1	94.1	56.5	32.1	26.5	27.7	34.2	42.0	45.4	44.2	42.0
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)