

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: P195905

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195905
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-05-D-UNV-T4W-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 29715 lumens
Efficiency: N/A
Efficacy: 106.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G5

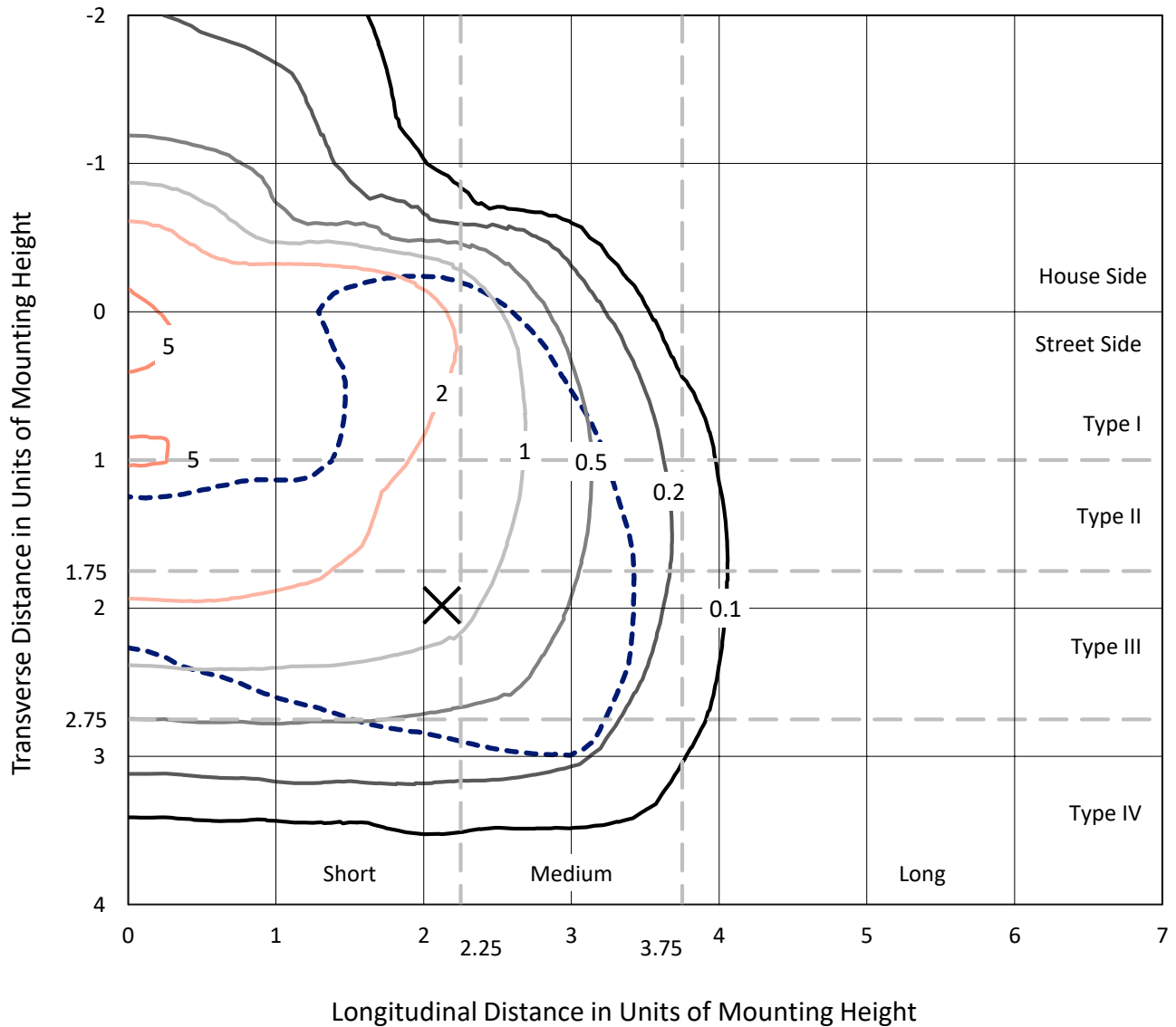
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

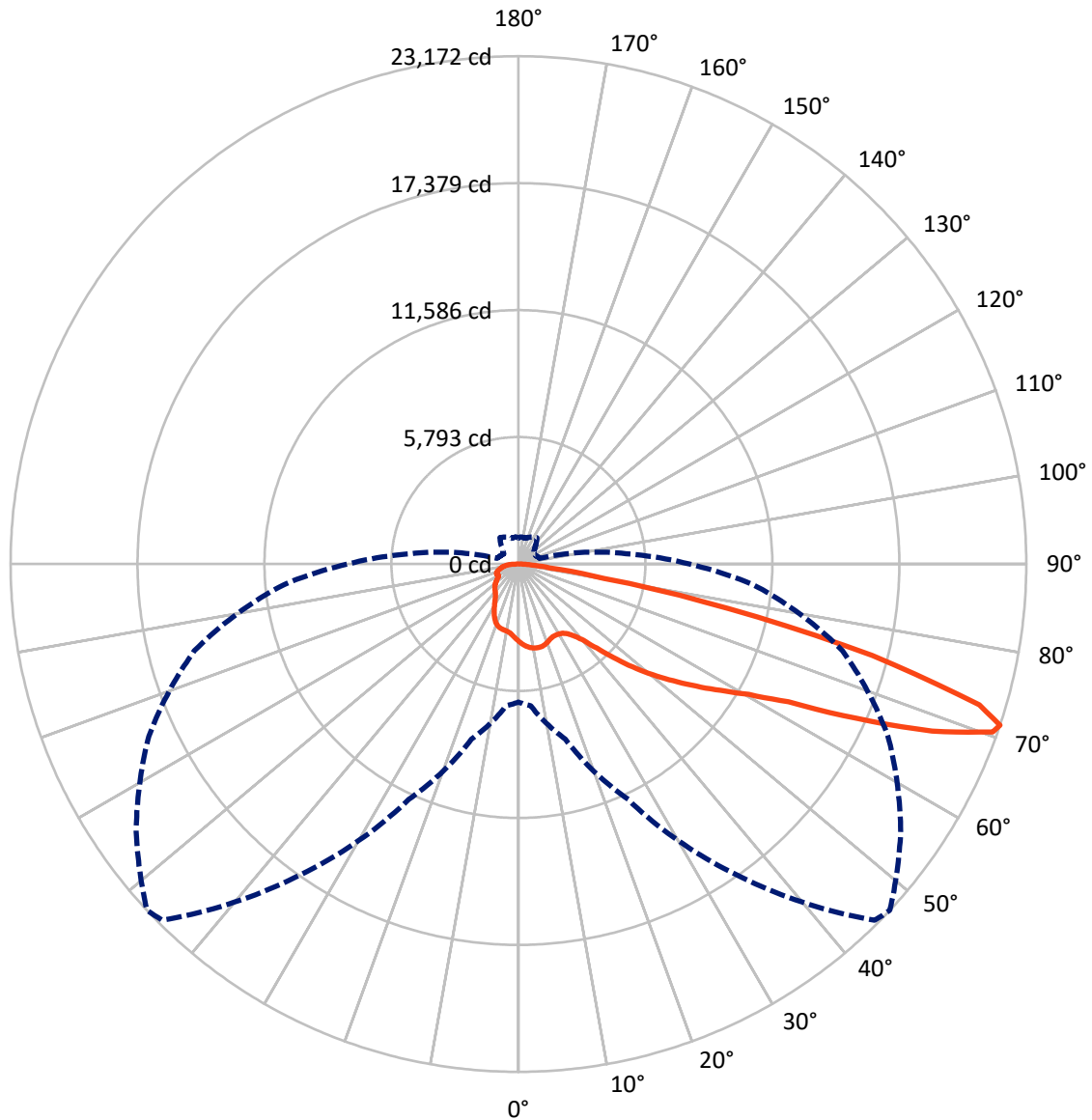
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.5 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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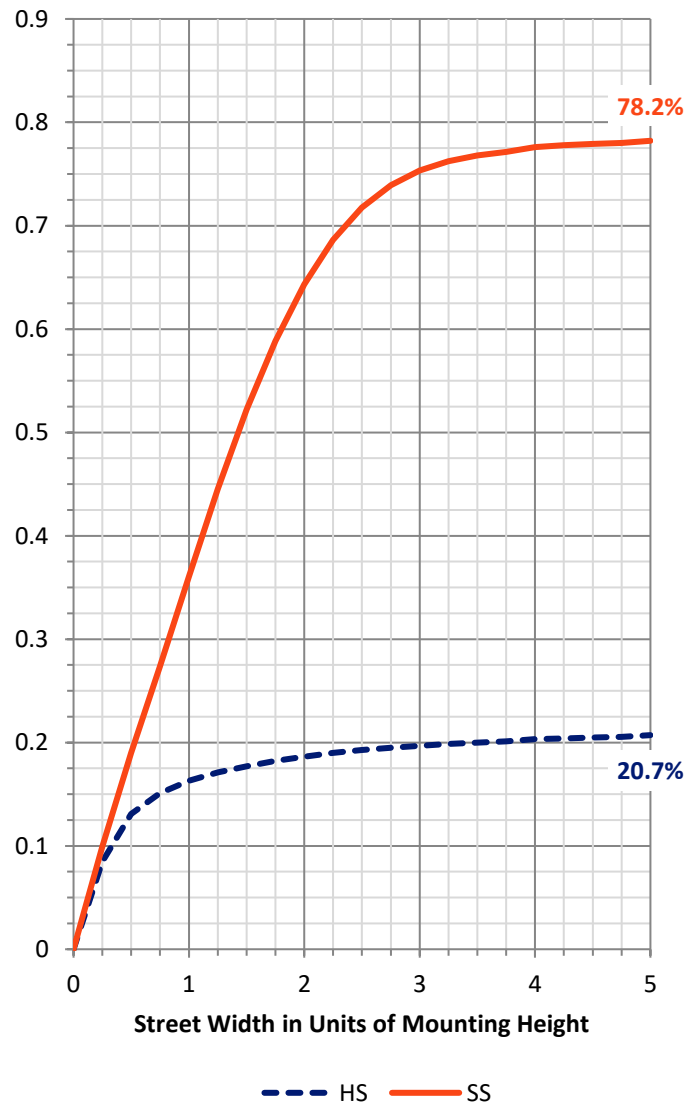
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6368.3	0.0	6368.3
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	23346.7	0.0	23346.7
	% Fixture	78.6	0.0	78.6
Total	Lumens	29715.0	0.0	29715.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	337.4	1.1
10°-20°	987.1	3.3
20°-30°	1466.7	4.9
30°-40°	2106.0	7.1
40°-50°	3734.0	12.6
50°-60°	6389.4	21.5
60°-70°	9070.7	30.5
70°-80°	4968.0	16.7
80°-90°	655.8	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°	29715.0	100.0
0°-180°	29715.0	100.0



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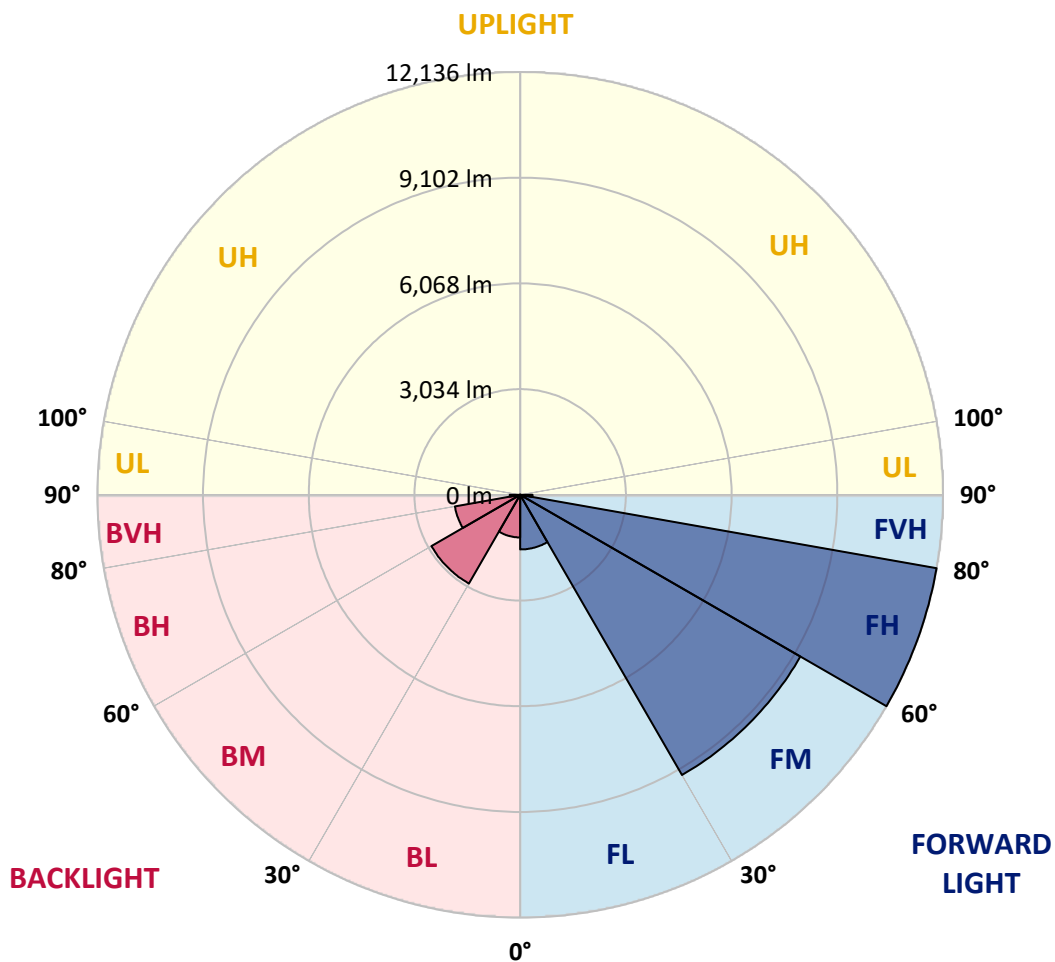
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1568.2	5.3			
FM	(30°-60°)	9286.8	31.3			
FH	(60°-80°)	12135.9	40.8			G5
FVH	(80°-90°)	355.7	1.2			G3/500
BL	(0°-30°)	1222.9	4.1	B3/2500		
BM	(30°-60°)	2942.5	9.9	B3/5000		
BH	(60°-80°)	1902.8	6.4	B3/2500		G3/2500
BVH	(80°-90°)	300.1	1.0			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	3533.6	3533.6	3533.6	3533.6	3533.6	3533.6	3533.6	3533.6	3533.6	3533.6	3533.6
2.5°	3749.3	3741.6	3745.4	3732.0	3699.2	3664.6	3664.6	3628.0	3589.5	3550.9	3508.6
5°	3982.3	3970.7	3961.1	3918.7	3855.2	3783.9	3772.4	3699.2	3620.3	3541.3	3464.3
7.5°	4176.8	4165.2	4136.3	4059.3	3966.9	3861.0	3847.5	3751.2	3647.2	3537.5	3429.6
10°	4315.4	4307.7	4251.9	4153.7	4045.8	3920.7	3897.6	3799.4	3676.1	3539.4	3402.7
12.5°	4392.5	4380.9	4313.5	4198.0	4070.9	3943.8	3920.7	3826.3	3685.7	3535.5	3375.7
15°	4361.7	4355.9	4292.3	4174.9	4047.8	3938.0	3918.7	3822.5	3680.0	3522.1	3350.7
17.5°	4230.7	4244.2	4194.1	4078.6	3974.6	3897.6	3876.4	3785.9	3651.1	3489.3	3312.2
20°	4049.7	4065.1	4040.1	3922.6	3862.9	3812.8	3801.3	3728.1	3602.9	3441.2	3265.9
22.5°	3857.1	3870.6	3872.5	3762.8	3743.5	3724.3	3714.6	3662.6	3560.6	3412.3	3235.1
25°	3724.3	3739.7	3743.5	3647.2	3658.8	3664.6	3662.6	3626.0	3552.9	3412.3	3239.0
27.5°	3689.6	3697.3	3693.4	3604.9	3626.0	3658.8	3660.7	3653.0	3583.7	3450.8	3292.9
30°	3809.0	3812.8	3764.7	3631.8	3653.0	3695.4	3697.3	3693.4	3649.2	3550.9	3414.2
32.5°	4325.1	4321.2	4155.6	3812.8	3739.7	3755.1	3760.8	3795.5	3799.4	3716.6	3589.5
35°	5110.7	5108.8	4916.2	4330.8	3986.1	3905.3	3913.0	3966.9	4015.0	3959.2	3886.0
37.5°	5975.4	5981.1	5863.7	5070.3	4517.6	4180.6	4172.9	4213.4	4300.0	4319.3	4328.9
40°	6934.4	6963.2	6957.5	5919.5	5262.9	4650.5	4573.5	4527.3	4694.8	4800.7	4937.4
42.5°	8030.1	8022.4	8026.2	6851.5	6114.0	5390.0	5247.5	5031.8	5226.3	5409.2	5709.6
45°	8971.7	9002.5	9025.6	7843.3	7067.2	6235.3	6090.9	5698.1	5873.3	6146.8	6605.1
47.5°	9919.1	9865.2	9907.6	8946.7	8128.3	7200.1	7013.3	6483.7	6647.4	7032.6	7729.7
50°	11022.6	10997.5	10805.0	10387.1	9410.8	8178.3	7933.8	7304.1	7542.9	8057.0	9118.1
52.5°	12012.4	11877.6	11727.4	11519.4	10672.1	9168.1	8858.1	8157.2	8596.2	9233.6	10841.5
55°	12374.4	12283.9	12464.9	12734.5	12006.6	10177.2	9830.6	9152.7	9784.3	10579.7	12869.3
57.5°	12759.5	12790.3	13198.6	13743.5	13269.8	11253.6	10878.1	10331.2	11088.0	12085.5	15135.8
60°	12952.1	13075.3	13889.9	14912.4	14471.4	12434.1	12074.0	11685.0	12534.2	13749.3	17396.5
62.5°	12984.8	13150.4	14303.9	15322.6	16125.6	14242.3	13826.3	13404.6	14340.5	15588.3	19033.4
65°	12384.0	12638.2	14267.3	15827.1	17633.4	17263.7	16999.8	16264.2	16759.1	17207.8	19312.6
67.5°	10618.2	10895.5	12855.8	15619.1	18842.7	20398.7	20348.6	19262.5	18627.0	17833.7	17242.5
70°	7793.2	8016.6	9899.9	13352.6	18315.1	22859.7	22948.3	21205.5	19148.9	16504.9	12821.1
71°	6302.7	6495.3	8270.8	11854.4	17286.8	22986.8	23171.6	21292.2	18605.9	15305.3	10733.7
72.5°	3922.6	4030.4	5492.0	8946.7	14885.5	21677.3	21989.3	20183.0	16895.9	12936.7	7587.2
75°	1480.8	1523.2	2037.4	3945.7	8885.1	16285.4	16662.9	15253.3	11869.9	7385.0	3175.4
77.5°	795.3	816.5	1011.0	1640.7	3560.6	9335.7	9820.9	8700.2	5694.2	2584.3	1297.9
80°	533.4	546.9	699.0	972.5	1636.8	3554.8	3959.2	3493.2	2131.7	1475.1	924.3
82.5°	344.7	352.4	475.6	639.3	1057.2	1249.8	1426.9	1490.5	1330.6	1057.2	558.4
85°	227.2	233.0	313.9	408.2	654.7	616.2	631.6	826.1	907.0	697.1	285.0
87.5°	130.9	134.8	188.7	209.9	294.6	231.1	250.3	392.8	539.2	454.5	163.7
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°	3533.6	3533.6	3533.6	3533.6	3533.6	3533.6	3533.6	3533.6	3533.6	3533.6	3533.6
2.5°	3489.3	3473.9	3439.3	3418.1	3408.4	3404.6	3400.7	3408.4	3408.4	3404.6	3396.9
5°	3425.8	3396.9	3339.1	3298.7	3277.5	3271.7	3279.4	3289.1	3294.8	3294.8	3289.1
7.5°	3379.6	3337.2	3260.2	3204.3	3171.6	3162.0	3183.1	3217.8	3240.9	3252.5	3254.4
10°	3341.0	3283.3	3198.5	3140.8	3113.8	3110.0	3136.9	3181.2	3229.4	3250.5	3254.4
12.5°	3306.4	3240.9	3148.5	3094.6	3075.3	3084.9	3121.5	3162.0	3217.8	3248.6	3250.5
15°	3273.6	3206.2	3108.0	3052.2	3048.3	3063.7	3098.4	3131.1	3173.5	3212.0	3212.0
17.5°	3235.1	3162.0	3059.9	3007.9	3007.9	3021.4	3044.5	3061.8	3088.8	3125.4	3123.4
20°	3188.9	3113.8	3009.8	2955.9	2944.4	2936.7	2936.7	2940.5	2963.6	2996.3	3002.1
22.5°	3154.3	3077.2	2967.5	2902.0	2850.0	2799.9	2778.7	2771.0	2792.2	2823.0	2830.7
25°	3154.3	3077.2	2954.0	2844.2	2717.1	2620.8	2580.4	2568.8	2590.0	2618.9	2630.5
27.5°	3206.2	3129.2	2984.8	2792.2	2559.2	2405.2	2357.0	2347.4	2366.7	2389.8	2401.3
30°	3327.6	3252.5	3073.4	2732.5	2384.0	2181.8	2127.9	2118.2	2127.9	2137.5	2151.0
32.5°	3529.8	3466.2	3217.8	2678.6	2206.8	1979.6	1914.1	1898.7	1902.6	1904.5	1916.0
35°	3859.1	3830.2	3410.4	2615.1	2039.3	1814.0	1746.6	1715.8	1713.8	1723.5	1737.0
37.5°	4363.6	4380.9	3658.8	2522.6	1900.6	1696.5	1629.1	1598.3	1582.9	1602.2	1617.6
40°	5076.1	5116.5	3945.7	2397.5	1787.0	1627.2	1555.9	1527.1	1505.9	1500.1	1507.8
42.5°	6002.3	5990.8	4238.4	2237.6	1663.8	1581.0	1505.9	1475.1	1440.4	1396.1	1386.5
45°	7100.0	6934.4	4483.0	2041.2	1523.2	1536.7	1459.7	1417.3	1363.4	1297.9	1290.2
47.5°	8395.9	7939.6	4633.2	1831.3	1392.3	1478.9	1407.7	1342.2	1263.2	1220.9	1215.1
50°	9957.7	9116.1	4739.1	1617.6	1274.8	1405.7	1334.5	1247.8	1170.8	1159.3	1157.3
52.5°	11806.3	10504.6	4870.0	1425.0	1182.4	1311.4	1261.3	1172.7	1111.1	1116.9	1116.9
55°	13772.4	11941.1	4873.9	1272.9	1101.5	1201.6	1207.4	1136.1	1088.0	1107.3	1113.0
57.5°	15565.2	13196.6	4490.7	1165.0	1024.5	1115.0	1190.1	1149.6	1113.0	1180.4	1186.2
60°	17128.9	14163.3	3666.5	1076.5	960.9	1082.2	1228.6	1232.4	1224.7	1407.7	1421.1
62.5°	17700.8	14173.0	2603.5	1001.4	926.2	1101.5	1309.5	1315.2	1315.2	1484.7	1509.7
65°	16899.7	12992.5	1733.1	957.1	903.1	1143.9	1374.9	1349.9	1290.2	1407.7	1380.7
67.5°	14076.7	10113.6	1267.1	928.2	870.4	1145.8	1432.7	1369.2	1267.1	1367.2	1321.0
70°	9674.6	6435.6	1061.0	901.2	831.9	1095.7	1463.5	1363.4	1232.4	1274.8	1213.2
71°	7787.4	5135.8	1007.1	891.6	816.5	1066.8	1467.4	1355.7	1215.1	1242.1	1186.2
72.5°	5130.0	3163.9	941.7	870.4	793.4	1016.8	1457.7	1338.3	1192.0	1193.9	1157.3
75°	2023.9	1311.4	847.3	822.3	727.9	935.9	1415.4	1301.8	1147.7	1109.2	1093.8
77.5°	1022.5	856.9	745.2	754.9	650.9	853.1	1355.7	1242.1	1086.1	1034.1	1022.5
80°	747.2	650.9	637.4	654.7	564.2	772.2	1280.6	1161.2	1007.1	1061.0	1037.9
82.5°	454.5	396.7	498.7	541.1	471.8	689.4	1192.0	1066.8	907.0	835.7	808.8
85°	215.7	233.0	360.1	398.6	348.5	550.7	1089.9	962.8	791.5	683.6	695.2
87.5°	105.9	129.0	206.0	238.8	229.2	404.4	822.3	747.2	623.9	514.2	502.6
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)