

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: P195149

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-7060-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195149
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)
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-SL3-7060-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16818 lumens
Efficiency: N/A
Efficacy: 103.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G3

Input Watts (W): 162
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

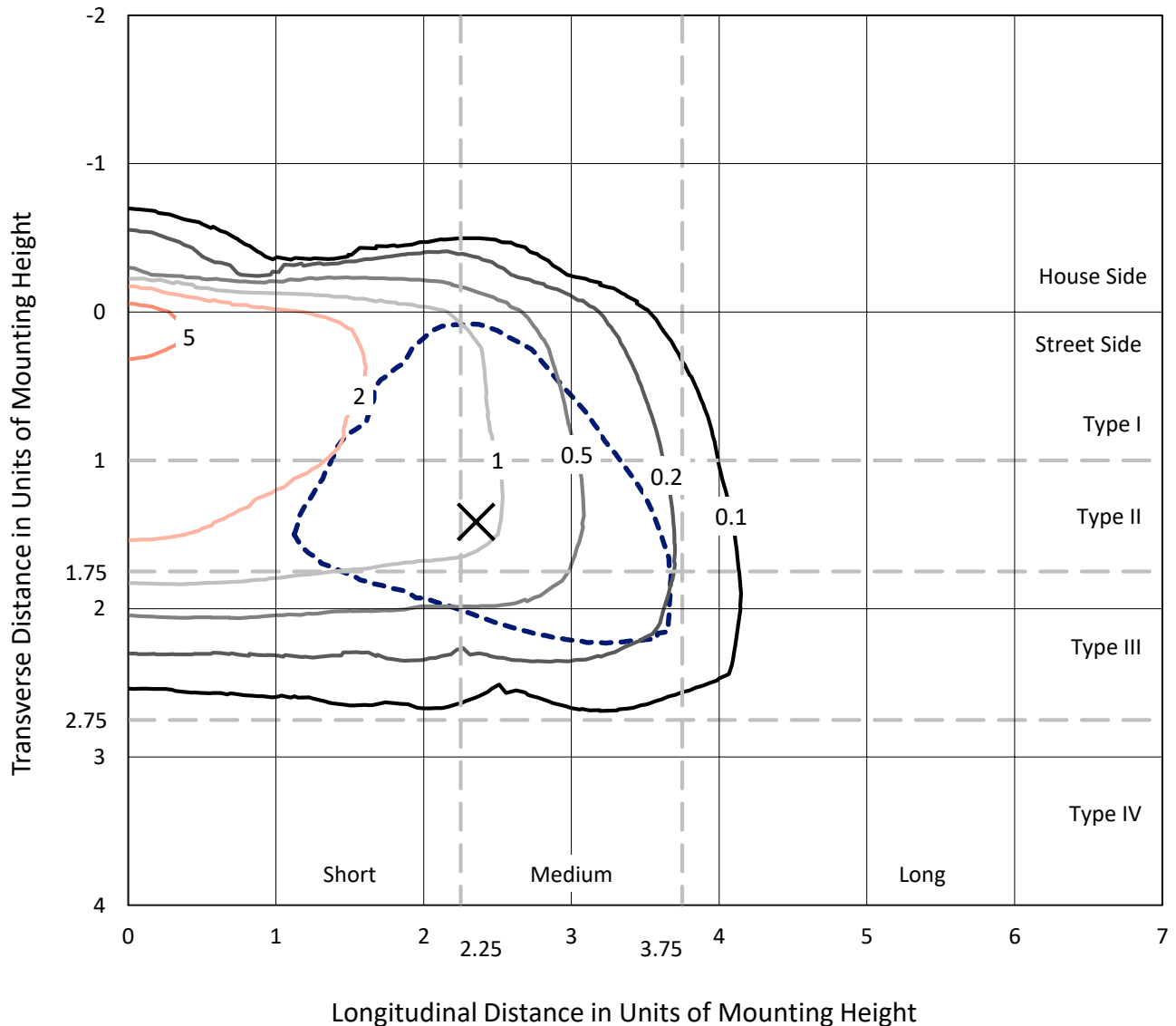


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

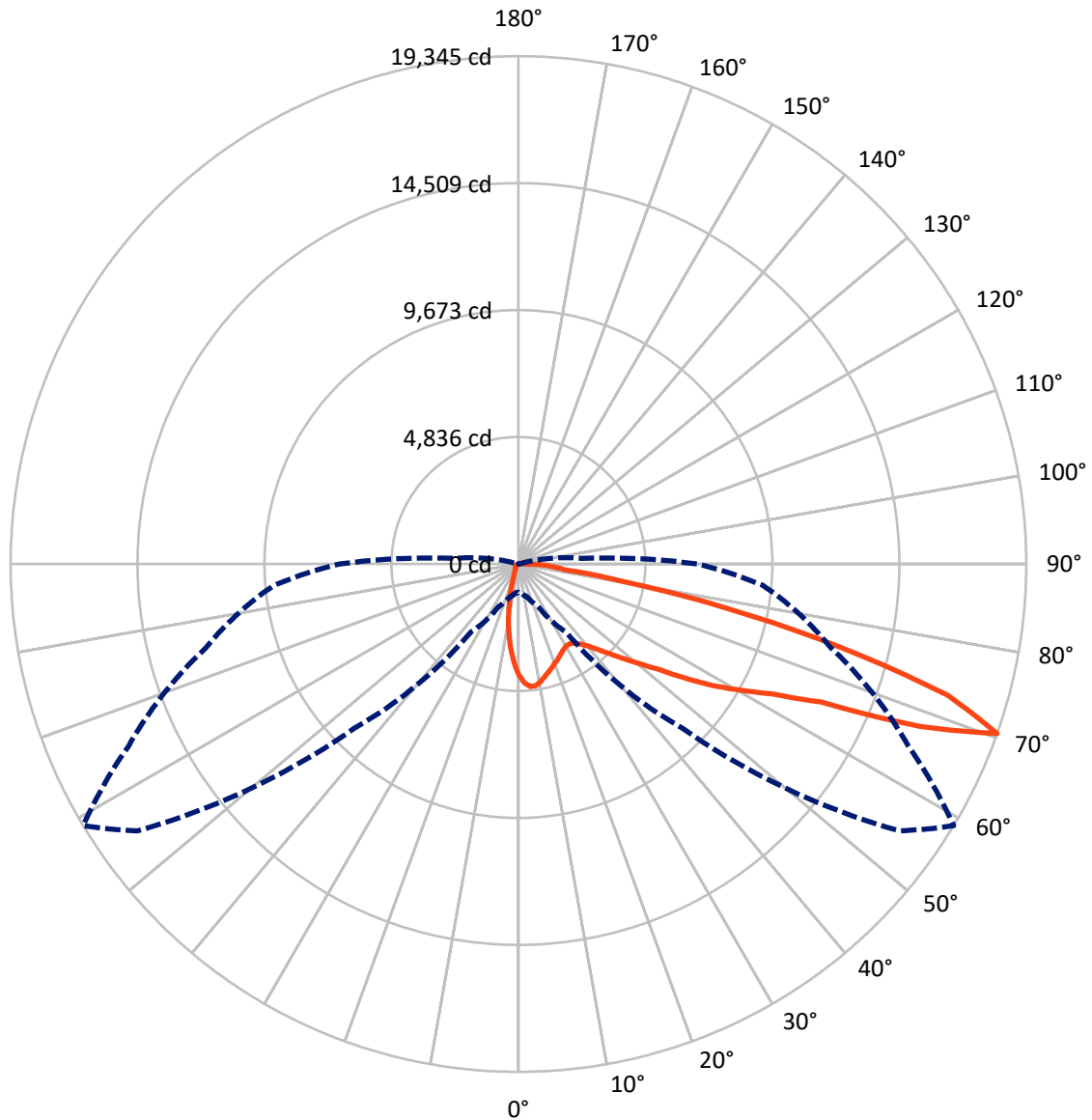


Based on 25 foot mounting height. Maximum calculated value = 7.2 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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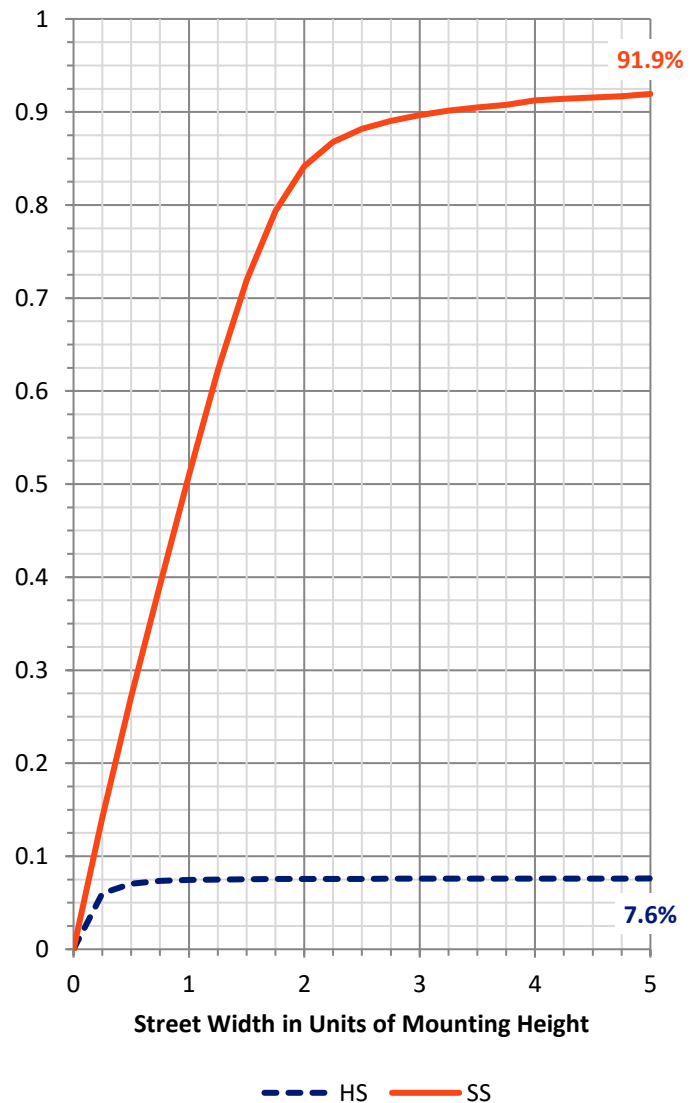
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1292.8	0.0	1292.8
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	15525.1	0.0	15525.1
	% Fixture	92.3	0.0	92.3
Total	Lumens	16818.0	0.0	16818.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	349.7	2.1
10°-20°	733.5	4.4
20°-30°	992.9	5.9
30°-40°	1432.9	8.5
40°-50°	2379.7	14.1
50°-60°	3640.0	21.6
60°-70°	4527.3	26.9
70°-80°	2502.7	14.9
80°-90°	259.5	1.5
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°	16818.0	100.0
0°-180°	16818.0	100.0

Coefficient of Utilization



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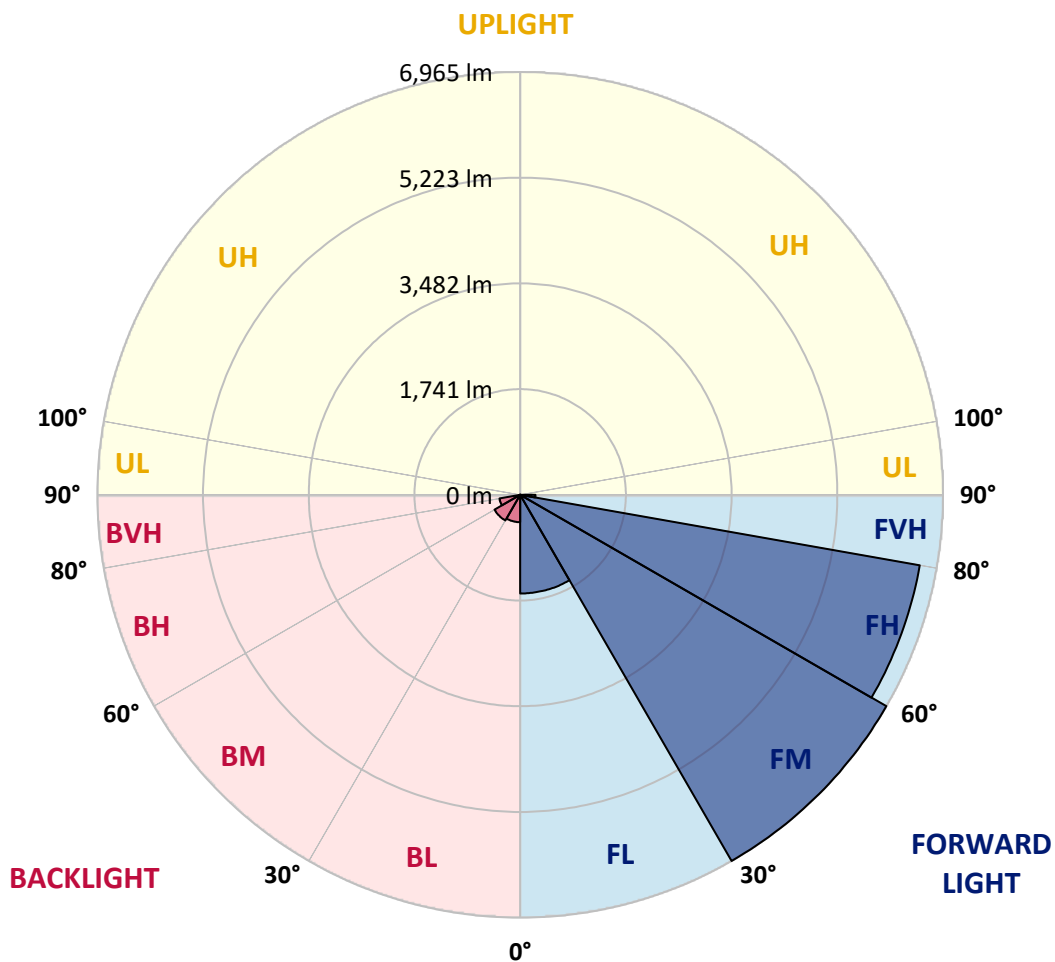
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1625.5	9.7			
FM	(30°-60°)	6964.5	41.4			
FH	(60°-80°)	6683.1	39.7			G3/7500
FVH	(80°-90°)	252.0	1.5			G3/500
BL	(0°-30°)	450.5	2.7	B1/500		
BM	(30°-60°)	488.0	2.9	B1/1000		
BH	(60°-80°)	346.8	2.1	B1/500		G1/500
BVH	(80°-90°)	7.5	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	4252.7	4252.7	4252.7	4252.7	4252.7	4252.7	4252.7	4252.7	4252.7	4252.7	4252.7
2.5°	4807.1	4799.5	4767.8	4761.4	4725.9	4654.8	4572.4	4539.4	4472.2	4365.6	4247.6
5°	4887.0	4890.8	4893.4	4879.4	4874.3	4816.0	4724.6	4685.3	4595.2	4420.1	4204.5
7.5°	4587.6	4597.8	4629.5	4643.4	4704.3	4727.2	4708.1	4682.8	4611.7	4404.9	4101.7
10°	4271.7	4290.7	4325.0	4347.8	4422.7	4483.6	4561.0	4567.3	4552.1	4354.2	3986.2
12.5°	4000.2	4018.0	4056.0	4101.7	4177.8	4256.5	4371.9	4412.5	4463.3	4321.2	3903.8
15°	3766.8	3771.8	3808.6	3865.7	3965.9	4073.8	4210.8	4270.4	4369.4	4308.5	3840.3
17.5°	3562.5	3563.8	3587.9	3639.9	3761.7	3903.8	4063.6	4142.3	4267.9	4290.7	3784.5
20°	3428.0	3426.7	3428.0	3455.9	3563.8	3732.5	3926.6	4009.1	4170.2	4269.2	3727.4
22.5°	3382.3	3376.0	3346.8	3336.7	3405.2	3553.6	3785.8	3893.6	4082.7	4262.8	3685.6
25°	3438.2	3434.4	3372.2	3313.8	3320.2	3412.8	3642.4	3774.4	4014.2	4285.7	3675.4
27.5°	3618.3	3610.7	3515.6	3401.4	3329.1	3345.5	3535.9	3674.1	3959.6	4341.5	3689.4
30°	3854.3	3855.6	3754.1	3615.8	3445.8	3351.9	3478.8	3609.4	3922.8	4425.2	3719.8
32.5°	4116.9	4115.6	4043.3	3883.5	3666.5	3468.6	3504.1	3614.5	3927.9	4548.3	3778.2
35°	4388.4	4374.5	4350.4	4209.5	3955.8	3672.9	3619.6	3700.8	3981.2	4710.7	3877.1
37.5°	4701.8	4696.7	4720.8	4572.4	4313.6	3973.6	3822.6	3877.1	4115.6	4950.4	4037.0
40°	5200.4	5172.5	5183.9	4982.2	4717.0	4378.3	4106.8	4120.7	4330.1	5267.6	4289.5
42.5°	6150.6	6037.7	5825.8	5447.8	5161.1	4827.4	4478.5	4454.4	4633.3	5652.0	4621.9
45°	7286.1	7156.7	6622.6	5961.6	5605.1	5309.5	4937.8	4873.1	5006.3	6110.0	5050.7
47.5°	8233.8	8094.3	7386.3	6498.3	6056.8	5806.8	5446.5	5370.4	5452.9	6641.6	5565.8
50°	8557.4	8480.0	7858.3	6944.8	6512.2	6365.0	6084.7	5957.8	5978.1	7215.1	6167.1
52.5°	8408.9	8382.3	7966.1	7250.6	6933.4	6981.6	6783.7	6650.5	6627.7	7841.8	6831.9
55°	8095.5	8082.9	7879.9	7420.6	7305.1	7546.2	7764.4	7649.0	7433.3	8507.9	7381.3
57.5°	7647.7	7695.9	7841.8	7747.9	7761.9	8142.5	8675.3	8735.0	8412.7	9038.2	7788.5
60°	6451.3	6580.7	7249.3	8099.4	8750.2	9134.6	9651.0	9762.6	9242.4	9401.0	8259.2
62.5°	4769.0	4954.3	5907.0	7468.8	9294.5	11021.2	10948.8	10899.4	10034.1	9886.9	9115.6
65°	2801.3	3018.2	3823.8	5836.0	8473.6	12234.0	13372.0	12687.0	11240.6	10896.8	10479.4
67.5°	1395.6	1396.8	1760.9	3080.4	6262.3	11387.8	16909.2	16513.3	13805.9	12385.0	11017.4
70°	1073.3	1102.5	1303.0	1790.1	3166.7	8869.4	17719.9	19345.1	16383.9	12319.0	9347.7
72.5°	909.7	928.7	1159.6	1558.0	2367.4	4869.3	15339.8	17099.5	15634.1	10408.4	6890.3
75°	654.6	669.9	1026.4	1413.3	2179.6	2415.6	10522.6	12681.9	11730.4	7321.6	3792.1
77.5°	162.4	161.1	357.8	1146.9	1950.0	2012.2	6037.7	8132.3	6730.4	2997.9	974.4
80°	72.3	69.8	81.2	241.1	1814.2	1899.2	2655.4	4106.8	2581.8	485.9	298.1
82.5°	50.7	48.2	50.7	88.8	606.4	1762.2	1604.9	1780.0	945.2	166.2	126.9
85°	16.5	15.2	27.9	74.9	170.0	1016.2	1565.6	1329.6	702.9	71.0	85.0
87.5°	2.5	2.5	10.1	40.6	49.5	338.7	918.5	921.1	315.9	41.9	38.1
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°	4252.7	4252.7	4252.7	4252.7	4252.7	4252.7	4252.7	4252.7	4252.7	4252.7	4252.7
2.5°	4188.0	4113.1	4007.8	3902.5	3807.4	3709.7	3631.0	3594.2	3577.7	3554.9	3505.4
5°	4091.5	3955.8	3724.9	3497.8	3285.9	3082.9	2909.1	2810.2	2703.6	2698.5	2646.5
7.5°	3936.8	3743.9	3379.8	3027.1	2703.6	2394.0	2127.6	1955.1	1837.1	1763.5	1712.7
10°	3764.2	3516.8	3034.7	2538.7	2098.4	1684.8	1342.3	1119.0	983.2	914.7	875.4
12.5°	3627.2	3316.4	2694.7	2070.5	1518.6	1044.1	725.7	563.3	491.0	463.1	450.4
15°	3509.2	3132.4	2376.3	1651.8	1013.7	600.1	419.9	366.7	355.2	355.2	354.0
17.5°	3390.0	2954.8	2066.7	1240.8	638.2	393.3	331.1	323.5	324.8	328.6	328.6
20°	3277.0	2786.1	1768.6	884.3	418.7	314.6	300.7	298.1	301.9	307.0	305.8
22.5°	3185.7	2637.6	1489.4	607.7	322.2	285.5	276.6	272.8	275.3	279.1	277.8
25°	3121.0	2510.7	1233.2	423.7	280.4	260.1	249.9	244.9	242.3	244.9	243.6
27.5°	3081.7	2404.2	992.1	318.4	251.2	234.7	222.0	211.9	205.5	205.5	203.0
30°	3056.3	2304.0	777.7	263.9	227.1	209.3	191.6	177.6	167.5	164.9	163.7
32.5°	3055.0	2217.7	581.1	233.4	204.3	184.0	162.4	144.6	133.2	130.7	129.4
35°	3086.7	2147.9	427.6	210.6	184.0	159.9	135.8	116.7	106.6	106.6	105.3
37.5°	3169.2	2107.3	323.5	192.8	167.5	139.6	114.2	96.4	87.5	90.1	90.1
40°	3322.7	2099.7	263.9	178.9	153.5	121.8	92.6	78.7	74.9	78.7	78.7
42.5°	3557.4	2140.3	234.7	168.7	140.8	104.0	77.4	67.2	66.0	69.8	69.8
45°	3863.2	2220.2	218.2	159.9	126.9	86.3	64.7	58.4	57.1	62.2	62.2
47.5°	4233.6	2328.1	203.0	149.7	112.9	71.0	54.6	49.5	49.5	54.6	55.8
50°	4672.6	2474.0	187.8	139.6	101.5	59.6	45.7	41.9	43.1	48.2	49.5
52.5°	5177.5	2652.8	173.8	130.7	88.8	48.2	38.1	35.5	36.8	41.9	43.1
55°	5612.7	2808.9	157.3	121.8	72.3	39.3	31.7	30.4	31.7	38.1	38.1
57.5°	5992.0	2958.6	142.1	107.8	57.1	31.7	25.4	25.4	27.9	34.3	35.5
60°	6495.7	3194.6	129.4	91.3	43.1	24.1	20.3	21.6	25.4	30.4	31.7
62.5°	7387.6	3595.5	112.9	76.1	31.7	19.0	16.5	17.8	22.8	29.2	30.4
65°	8504.1	3974.8	93.9	63.4	24.1	14.0	12.7	16.5	22.8	29.2	30.4
67.5°	8389.9	3457.2	73.6	50.7	17.8	11.4	10.1	15.2	21.6	29.2	30.4
70°	6804.0	2423.2	54.6	34.3	14.0	10.1	10.1	15.2	21.6	27.9	29.2
72.5°	4719.5	1348.6	41.9	22.8	12.7	10.1	8.9	14.0	20.3	27.9	29.2
75°	2245.6	413.6	33.0	16.5	11.4	8.9	7.6	14.0	20.3	27.9	29.2
77.5°	431.4	105.3	26.6	14.0	10.1	8.9	7.6	12.7	20.3	26.6	27.9
80°	145.9	46.9	21.6	12.7	10.1	8.9	7.6	12.7	19.0	25.4	26.6
82.5°	79.9	26.6	19.0	11.4	10.1	7.6	6.3	11.4	17.8	25.4	26.6
85°	62.2	19.0	15.2	11.4	10.1	7.6	6.3	11.4	17.8	24.1	25.4
87.5°	31.7	14.0	12.7	11.4	10.1	7.6	6.3	10.1	16.5	22.8	25.4
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)