

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: P195131

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-7060-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195131
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-05-D-UNV-SL2-7060-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 800mA 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: 23817 lumens
Efficiency: N/A
Efficacy: 113.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B3 - U0 - G4

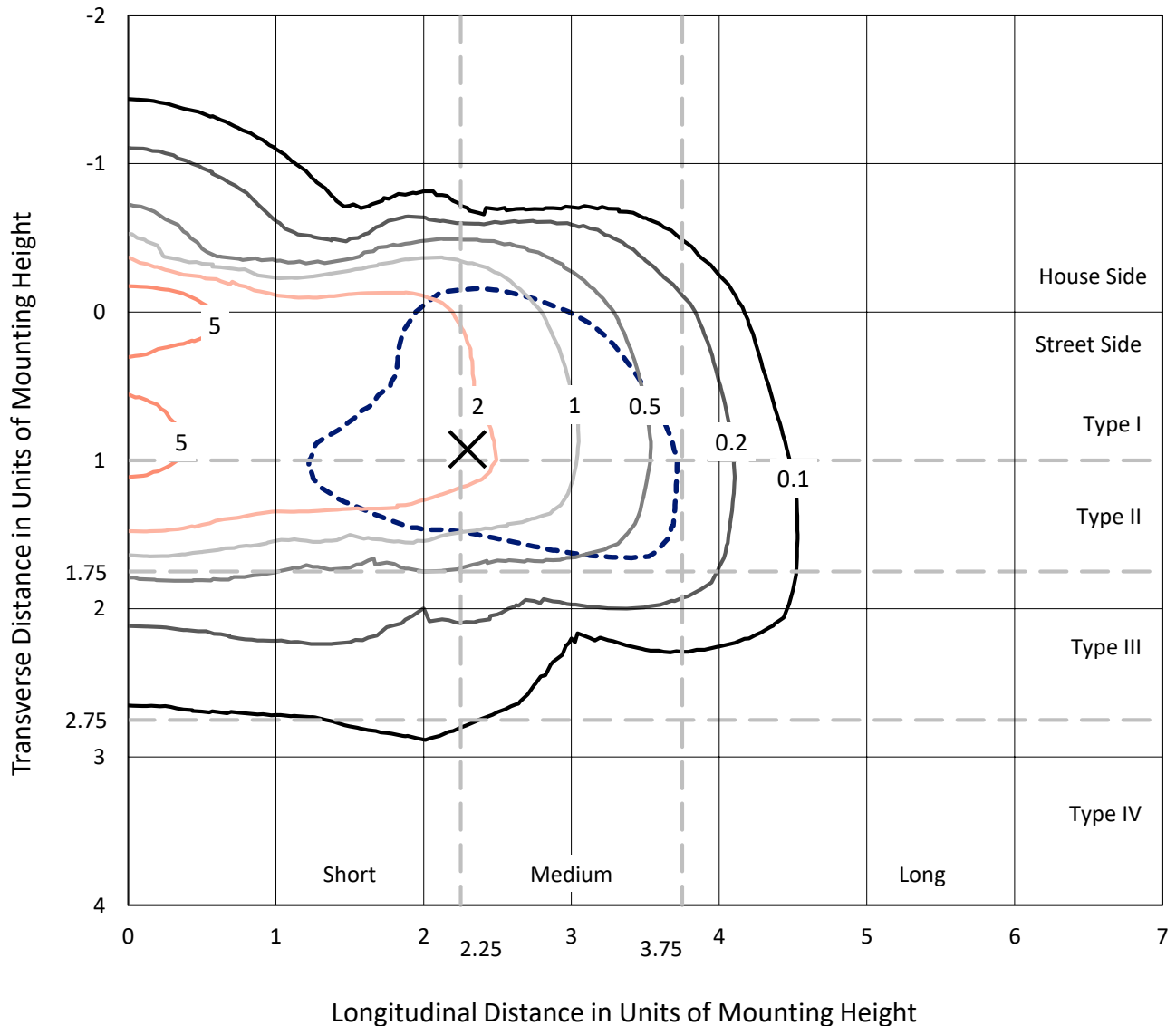
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

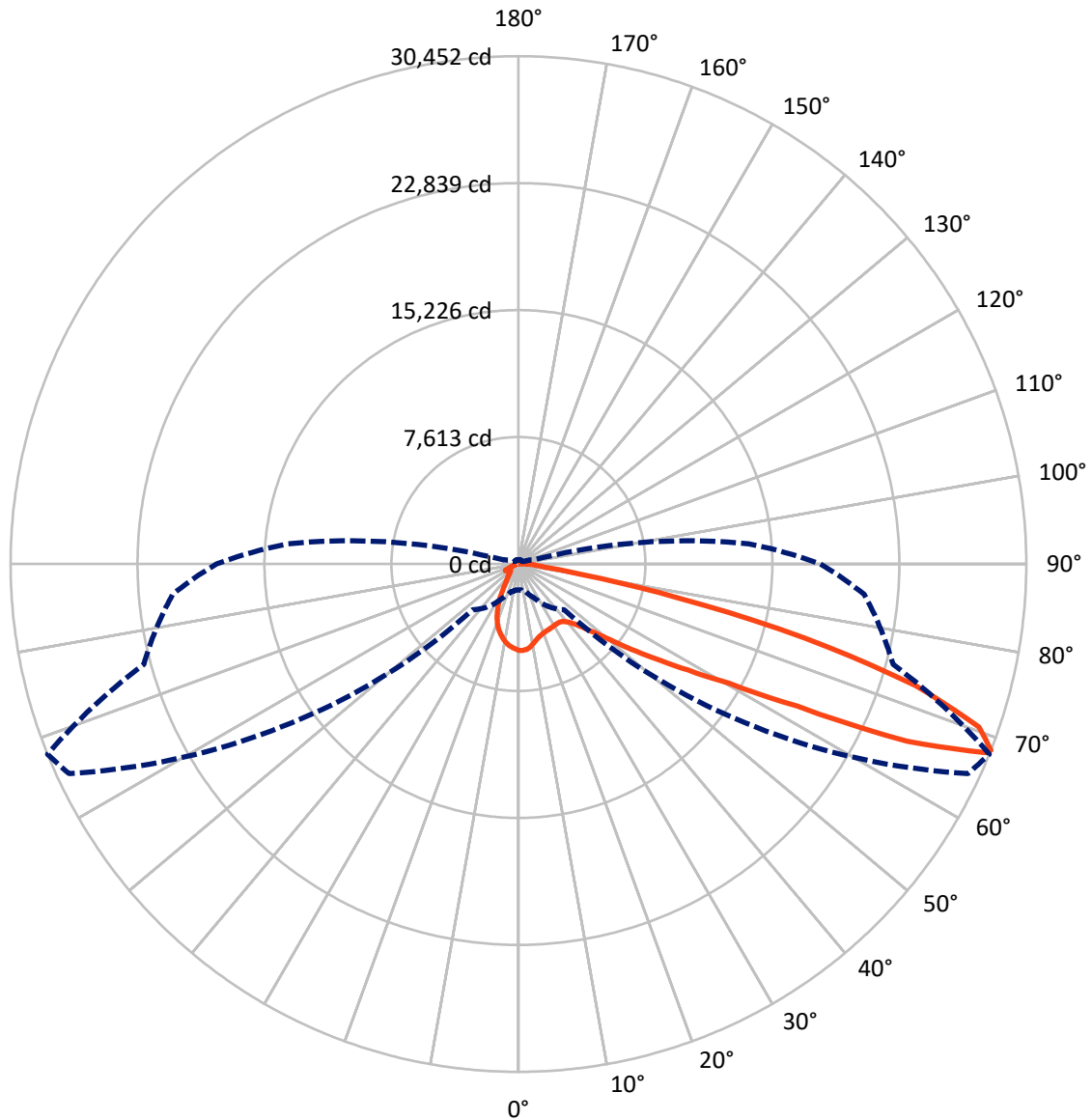
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.3 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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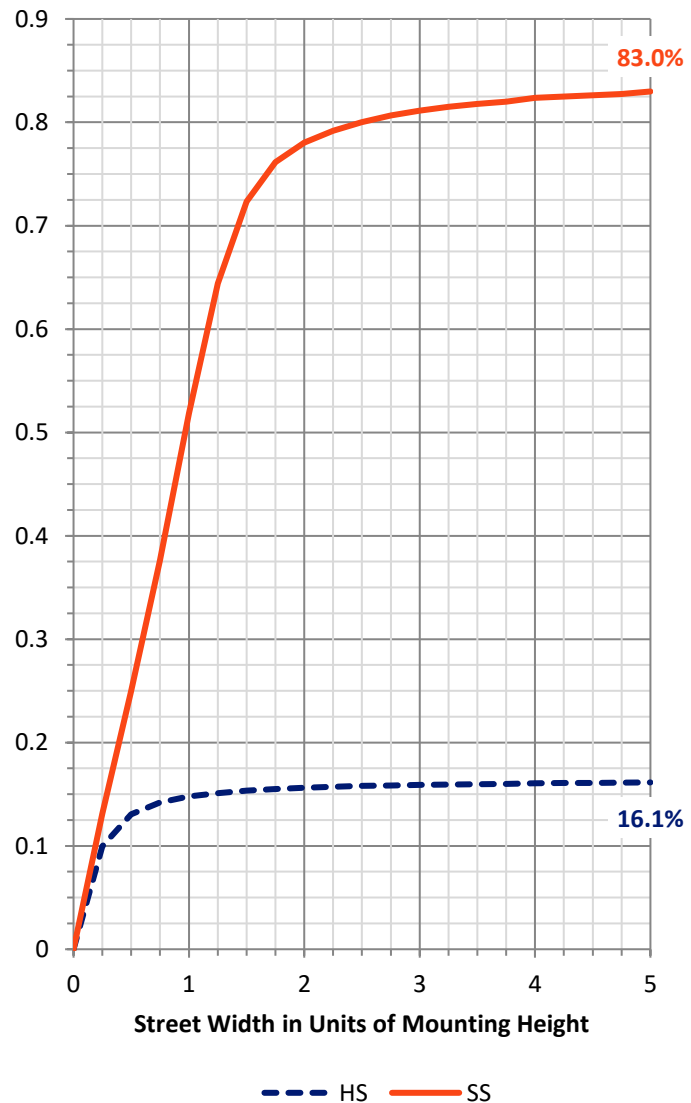
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3896.5	0.0	3896.5
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	19920.5	0.0	19920.5
	% Fixture	83.6	0.0	83.6
Total	Lumens	23817.0	0.0	23817.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	444.0	1.9
10°-20°	1029.9	4.3
20°-30°	1392.9	5.8
30°-40°	1963.9	8.2
40°-50°	3229.4	13.6
50°-60°	5005.9	21.0
60°-70°	6490.5	27.3
70°-80°	3724.6	15.6
80°-90°	535.9	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°	23817.0	100.0
0°-180°	23817.0	100.0



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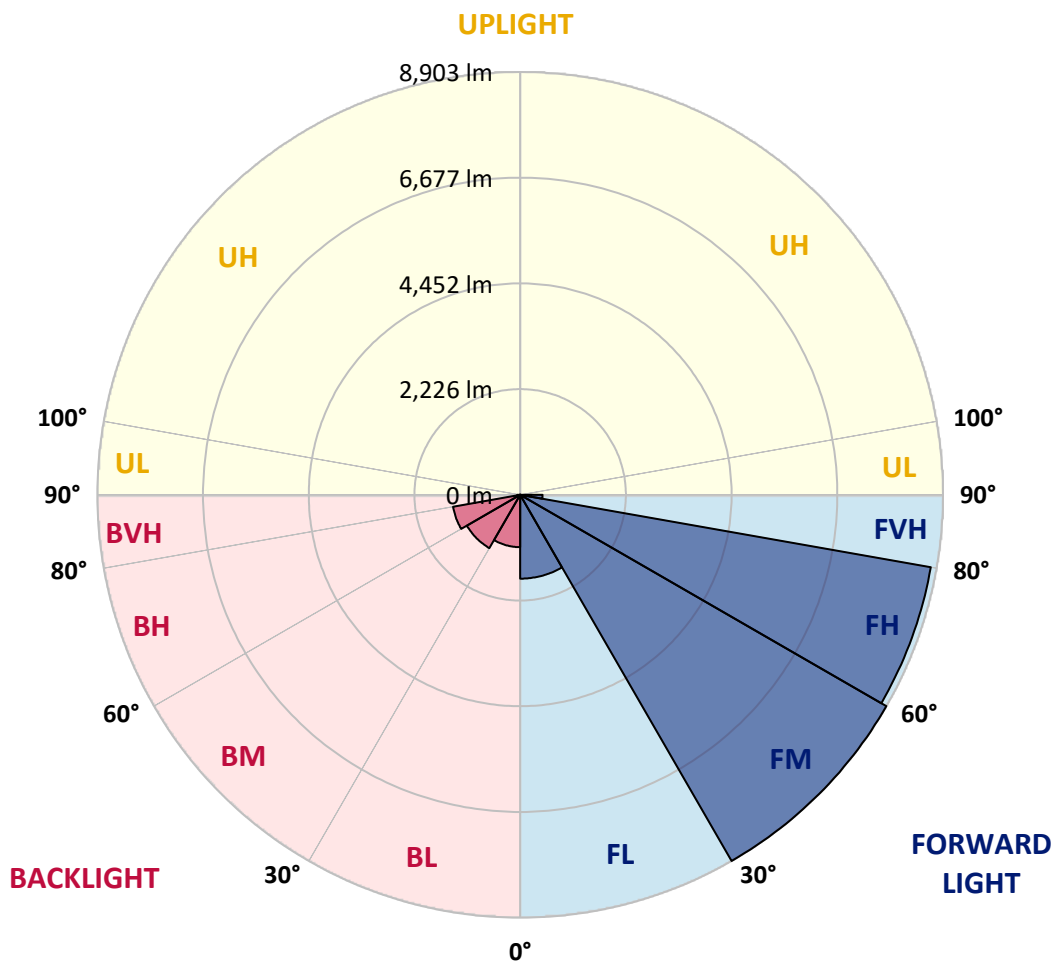
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1765.2	7.4			
FM (30°-60°)	8903.2	37.4			
FH (60°-80°)	8780.0	36.9			G4/12000
FVH (80°-90°)	472.0	2.0			G3/500
BL (0°-30°)	1101.6	4.6	B3/2500		
BM (30°-60°)	1296.0	5.4	B2/2500		
BH (60°-80°)	1435.1	6.0	B3/2500		G3/2500
BVH (80°-90°)	63.9	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-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	5182.4	5182.4	5182.4	5182.4	5182.4	5182.4	5182.4	5182.4	5182.4	5182.4	5182.4
2.5°	5043.9	5084.4	5084.4	5113.9	5140.4	5162.1	5180.8	5180.8	5180.8	5168.4	5157.5
5°	4513.4	4567.8	4575.6	4650.3	4748.3	4868.1	5001.9	5120.1	5143.5	5187.0	5204.1
7.5°	4144.6	4161.8	4191.3	4242.7	4342.2	4490.0	4700.1	4964.6	5028.3	5165.3	5236.8
10°	3883.3	3897.3	3922.2	3973.5	4063.7	4197.5	4404.5	4748.3	4854.1	5096.8	5238.4
12.5°	3691.9	3702.8	3726.1	3772.8	3864.6	3984.4	4196.0	4553.8	4684.5	5028.3	5260.2
15°	3542.6	3561.2	3579.9	3625.0	3718.4	3833.5	4048.2	4412.2	4553.8	4973.9	5300.6
17.5°	3483.4	3492.8	3495.9	3519.2	3603.2	3719.9	3934.6	4312.7	4458.9	4930.3	5331.7
20°	3520.8	3522.3	3491.2	3475.7	3523.9	3631.2	3839.7	4238.0	4387.4	4891.4	5344.2
22.5°	3684.1	3684.1	3603.2	3534.8	3502.1	3569.0	3775.9	4186.7	4348.5	4861.9	5344.2
25°	3995.3	3981.3	3855.3	3719.9	3575.2	3547.2	3735.5	4154.0	4318.9	4846.3	5323.9
27.5°	4404.5	4392.0	4231.8	4031.1	3769.7	3593.9	3721.5	4127.5	4289.3	4823.0	5280.4
30°	4902.3	4891.4	4709.4	4446.5	4060.6	3741.7	3754.1	4108.9	4266.0	4784.1	5207.3
32.5°	5398.6	5392.4	5247.7	4978.6	4462.0	3992.2	3839.7	4105.8	4253.6	4737.4	5118.6
35°	5898.0	5898.0	5809.4	5582.2	5001.9	4368.7	4018.6	4163.3	4276.9	4712.5	5042.3
37.5°	6635.5	6605.9	6441.0	6206.1	5681.8	4857.2	4308.0	4284.7	4367.1	4754.5	5017.5
40°	7777.4	7691.9	7279.6	6884.4	6423.9	5482.6	4731.2	4519.6	4569.4	4897.7	5076.6
42.5°	8972.3	8836.9	8290.9	7659.2	7190.9	6254.3	5286.6	4900.8	4899.2	5174.6	5264.8
45°	9997.6	9927.6	9336.4	8535.1	8066.8	7122.4	5988.3	5467.1	5411.1	5604.0	5627.3
47.5°	10593.4	10546.8	10190.5	9462.4	9106.1	8147.7	6878.2	6252.8	6147.0	6262.1	6226.3
50°	10428.5	10473.6	10371.0	9999.1	10223.2	9588.4	8012.4	7329.4	7128.7	7243.8	7156.7
52.5°	9560.4	9681.7	9773.5	9845.1	10865.7	11516.0	9437.5	8673.6	8507.1	8486.9	8402.9
55°	7996.8	8189.7	8479.1	9005.0	10693.0	13064.0	11926.8	10299.4	10056.7	9929.1	9961.8
57.5°	5442.2	5734.7	6358.6	7358.9	9795.3	13723.7	15607.8	12399.7	11989.0	11534.7	11640.5
60°	2998.0	3242.3	3984.4	4992.6	7746.3	13625.7	18870.3	15813.1	14520.3	13316.1	13533.9
62.5°	1940.1	1993.0	2545.3	3410.3	4754.5	12029.4	20682.8	21518.3	18778.5	15665.3	15971.8
65°	1558.9	1596.2	1867.0	2750.7	3312.3	7738.5	20763.7	27436.5	25630.2	18857.8	18867.2
67.5°	1523.1	1540.2	1697.4	2313.5	3106.9	4213.1	17947.7	29770.2	30188.7	22626.0	20804.1
68°	1544.9	1565.1	1723.8	2241.9	3105.4	3883.3	16587.9	29734.4	30451.7	23256.1	20804.1
70°	1362.9	1387.8	1758.1	2319.7	2973.1	3338.7	11358.9	28155.3	29309.7	24704.5	19740.0
72.5°	712.6	692.3	869.7	1831.2	3346.5	3478.8	6000.7	23522.1	24869.4	22879.6	17054.7
75°	555.4	505.6	487.0	723.4	2943.6	3607.9	3485.0	16718.6	17736.1	16493.0	11399.3
77.5°	522.7	462.1	426.3	427.8	1296.0	3754.1	2819.1	9838.9	9838.9	7867.7	3637.5
80°	420.1	364.1	340.7	388.9	625.4	3460.1	2942.0	4483.8	3824.2	2033.4	1001.9
82.5°	276.9	247.4	248.9	315.8	474.5	2310.4	3407.2	2213.9	1663.1	900.8	589.6
85°	175.8	150.9	168.0	220.9	354.7	1029.9	3373.0	1538.7	1101.5	505.6	294.0
87.5°	88.7	68.5	84.0	115.1	216.3	295.6	2777.1	1373.8	816.8	210.0	160.2
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°	5182.4	5182.4	5182.4	5182.4	5182.4	5182.4	5182.4	5182.4	5182.4	5182.4	5182.4
2.5°	5157.5	5123.2	5106.1	5078.1	5043.9	5009.7	4986.3	4975.4	4969.2	4972.3	4970.8
5°	5194.8	5149.7	5076.6	4972.3	4865.0	4751.4	4664.3	4597.4	4555.4	4542.9	4539.8
7.5°	5222.8	5157.5	5020.6	4830.8	4647.2	4448.0	4278.4	4143.1	4051.3	4009.3	4007.7
10°	5218.2	5134.1	4917.9	4637.8	4368.7	4076.2	3810.2	3583.0	3418.1	3338.7	3335.6
12.5°	5222.8	5107.7	4791.9	4412.2	4026.4	3607.9	3212.7	2859.6	2613.7	2497.1	2492.4
15°	5241.5	5079.7	4662.7	4160.2	3626.6	3035.4	2470.6	2027.2	1803.2	1726.9	1726.9
17.5°	5239.9	5033.0	4513.4	3867.7	3152.0	2360.1	1686.5	1412.7	1390.9	1460.9	1471.8
20°	5208.8	4958.3	4320.5	3520.8	2595.1	1633.6	1143.5	1104.6	1278.9	1471.8	1493.6
22.5°	5160.6	4861.9	4098.0	3117.8	1946.3	1064.2	882.1	941.3	1177.7	1417.3	1451.6
25°	5093.7	4745.2	3842.8	2649.5	1294.4	765.5	735.9	809.0	975.5	1135.7	1160.6
27.5°	4995.7	4597.4	3564.3	2142.3	826.1	630.1	641.0	692.3	763.9	832.4	846.4
30°	4872.8	4424.7	3261.0	1580.7	627.0	563.2	581.9	613.0	644.1	687.7	697.0
32.5°	4748.3	4248.9	2945.1	1085.9	547.6	527.4	546.1	563.2	589.6	619.2	625.4
35°	4636.3	4085.5	2620.0	757.7	513.4	504.1	513.4	524.3	550.8	580.3	583.4
37.5°	4555.4	3951.7	2280.8	599.0	493.2	483.9	488.5	493.2	524.3	567.9	572.5
40°	4544.5	3863.0	1937.0	538.3	477.6	465.2	462.1	465.2	505.6	555.4	560.1
42.5°	4650.3	3867.7	1600.9	513.4	465.2	451.2	438.7	445.0	480.7	519.6	522.7
45°	4900.8	3976.6	1310.0	502.5	454.3	443.4	424.7	427.8	445.0	465.2	468.3
47.5°	5342.6	4214.7	1087.5	496.3	445.0	435.6	412.3	403.0	404.5	415.4	415.4
50°	6048.9	4612.9	952.1	490.1	437.2	420.1	393.6	374.9	370.3	376.5	378.1
52.5°	7102.2	5295.9	886.8	477.6	423.2	399.8	370.3	351.6	343.8	350.1	350.1
55°	8525.8	6386.6	855.7	460.5	406.1	374.9	348.5	332.9	326.7	331.4	331.4
57.5°	10148.5	7803.9	908.6	437.2	384.3	348.5	329.8	318.9	314.3	318.9	320.5
60°	12076.1	9658.4	1272.6	407.6	360.9	325.2	314.3	308.0	304.9	309.6	309.6
62.5°	14638.5	12125.9	1969.6	384.3	336.1	303.4	300.3	297.2	294.0	298.7	298.7
65°	17404.7	14370.9	2027.2	370.3	314.3	284.7	286.3	286.3	283.2	287.8	287.8
67.5°	18285.3	14176.4	1132.6	353.2	287.8	266.0	272.3	272.3	270.7	275.4	273.8
68°	18098.6	13868.4	986.4	348.5	283.2	261.4	267.6	269.2	267.6	272.3	270.7
70°	16707.7	12175.7	648.8	322.1	262.9	245.8	255.2	256.7	255.2	261.4	259.8
72.5°	13792.2	9132.5	479.2	281.6	238.0	225.6	234.9	236.5	238.0	244.3	242.7
75°	8759.1	5043.9	378.1	239.6	213.1	202.3	211.6	216.3	219.4	228.7	224.0
77.5°	2399.0	1530.9	306.5	203.8	183.6	178.9	185.1	191.4	194.5	205.4	197.6
80°	840.1	676.8	255.2	172.7	152.5	150.9	157.1	163.4	166.5	175.8	166.5
82.5°	510.3	441.8	203.8	135.4	119.8	118.2	126.0	132.2	135.4	135.4	129.1
85°	266.0	233.4	149.4	94.9	82.5	77.8	91.8	99.6	101.1	99.6	94.9
87.5°	149.4	132.2	79.3	45.1	37.3	38.9	48.2	59.1	63.8	62.2	59.1
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)