

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: P195401

Luminaire Tested: **NAV-AF-05-D-UNV-T4FT-7060**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195401
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
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-T4FT-7060
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30307 lumens
Efficiency: N/A
Efficacy: 108.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G5

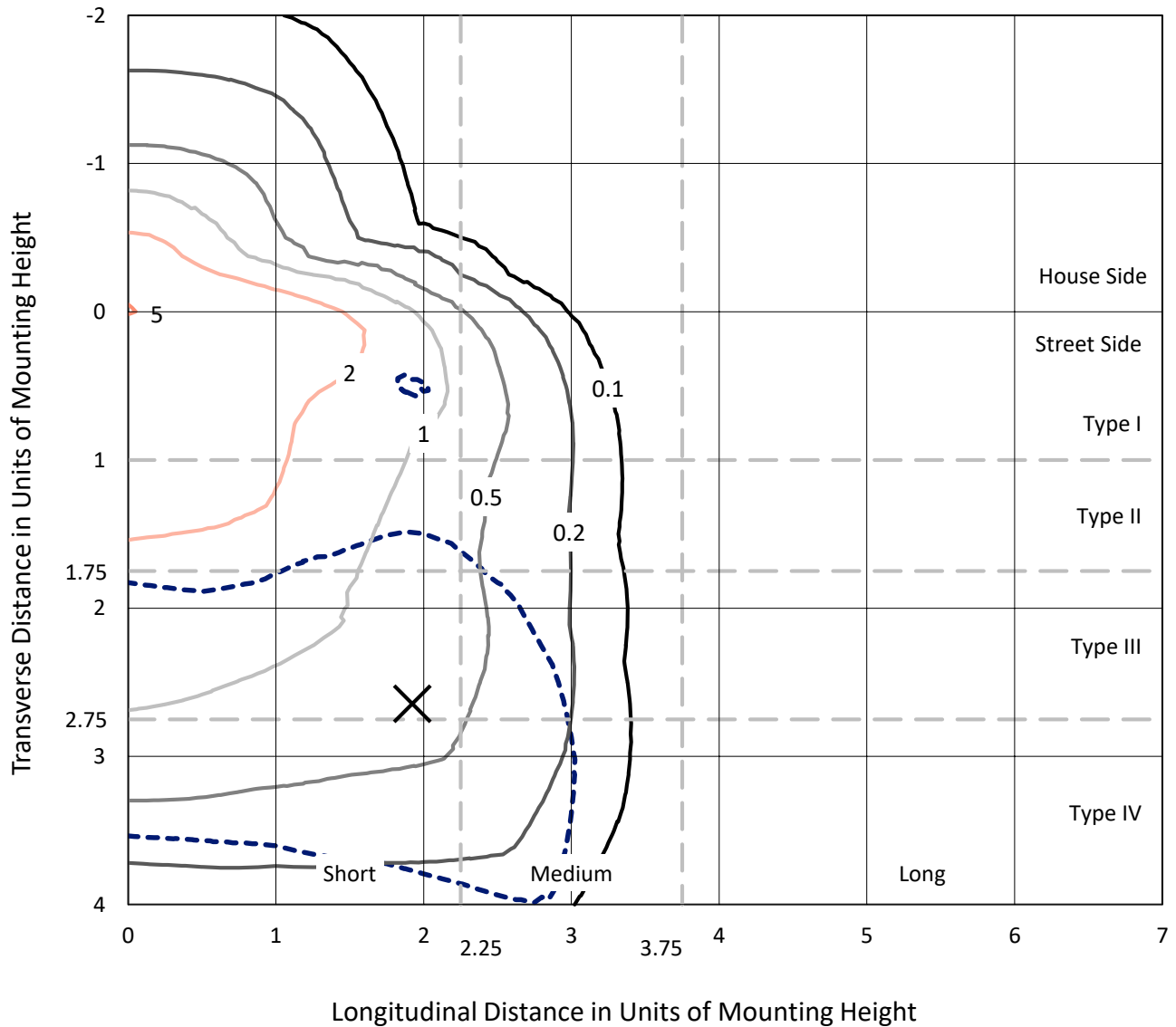
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

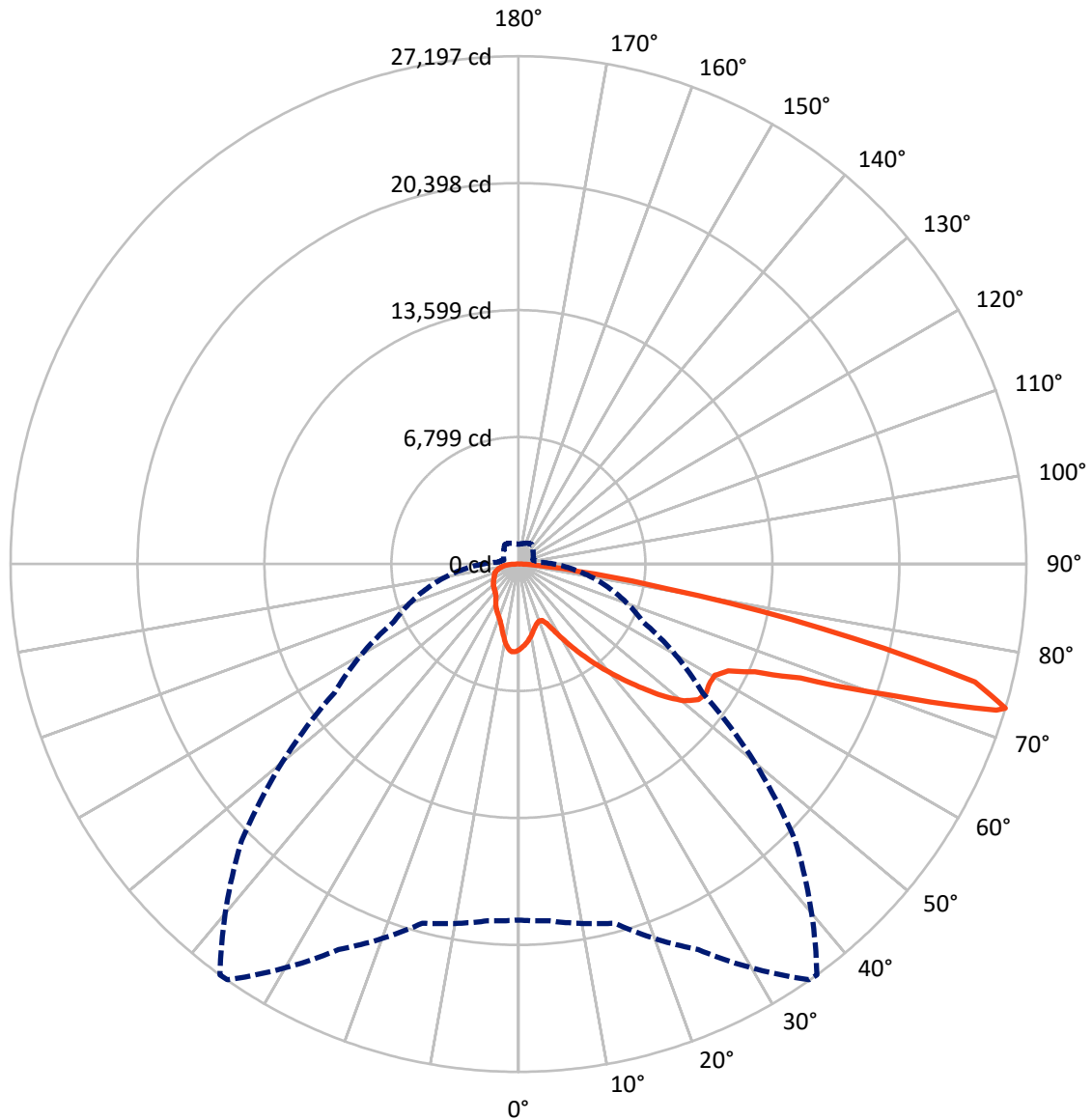
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 5.1 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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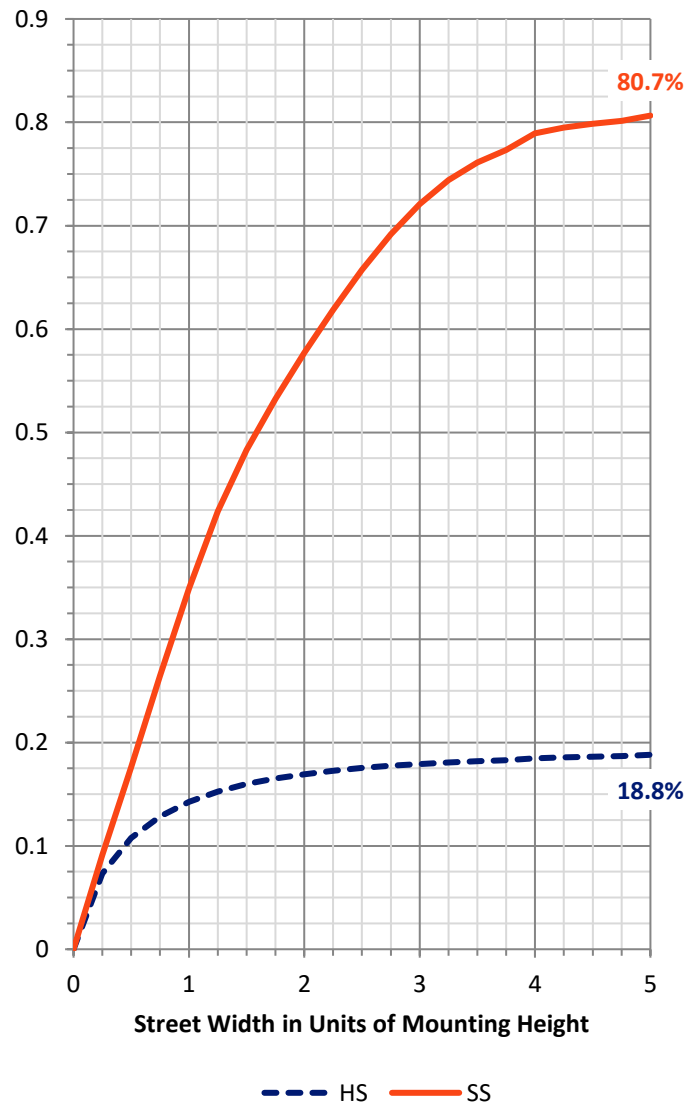
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5844.1	0.0	5844.1
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	24462.9	0.0	24462.9
	% Fixture	80.7	0.0	80.7
Total	Lumens	30307.0	0.0	30307.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	417.0	1.4
10°-20°	1047.2	3.5
20°-30°	1679.0	5.5
30°-40°	2777.1	9.2
40°-50°	4297.3	14.2
50°-60°	5752.8	19.0
60°-70°	7515.0	24.8
70°-80°	6138.4	20.3
80°-90°	683.3	2.3
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°	30307.0	100.0
0°-180°	30307.0	100.0



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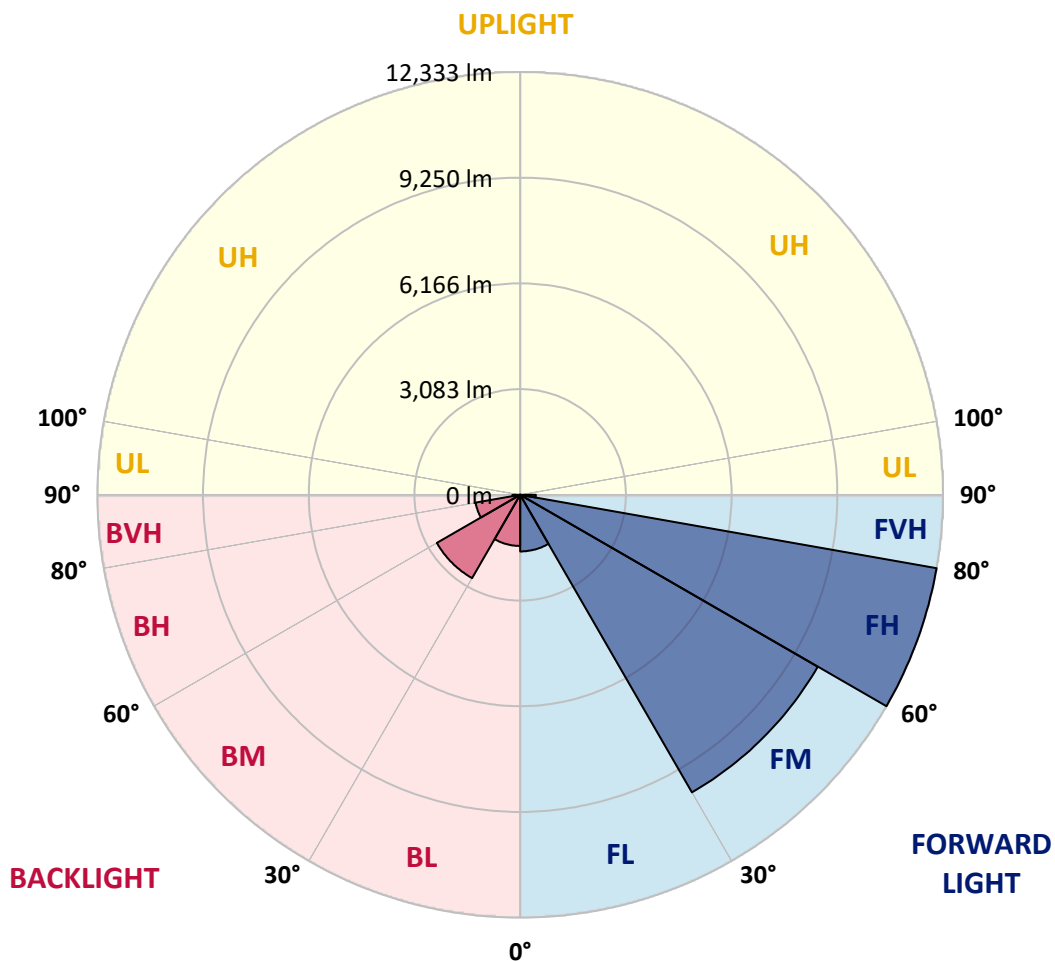
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1651.4	5.4			
FM	(30°-60°)	10020.6	33.1			
FH	(60°-80°)	12332.7	40.7			G5
FVH	(80°-90°)	458.2	1.5			G3/500
BL	(0°-30°)	1491.8	4.9	B3/2500		
BM	(30°-60°)	2806.7	9.3	B3/5000		
BH	(60°-80°)	1320.6	4.4	B3/2500		G3/2500
BVH	(80°-90°)	225.0	0.7			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°	36°	45°	55°	65°	75°	85°
0°	4590.6	4590.6	4590.6	4590.6	4590.6	4590.6	4590.6	4590.6	4590.6	4590.6	4590.6
2.5°	4415.4	4427.0	4428.9	4442.4	4442.4	4440.4	4446.2	4469.3	4480.9	4507.8	4530.9
5°	4197.8	4211.3	4217.1	4240.2	4269.1	4271.0	4292.2	4336.4	4378.8	4438.5	4488.6
7.5°	3953.3	3968.7	3984.1	4032.2	4074.6	4078.4	4118.9	4190.1	4245.9	4319.1	4409.6
10°	3716.4	3720.3	3735.7	3797.3	3853.1	3858.9	3916.7	3997.5	4072.6	4174.7	4276.8
12.5°	3521.9	3533.5	3529.6	3575.8	3624.0	3627.8	3704.9	3806.9	3916.7	4032.2	4153.5
15°	3454.5	3452.6	3412.2	3410.2	3431.4	3435.3	3510.4	3629.8	3753.0	3895.5	4051.5
17.5°	3500.7	3485.3	3379.4	3314.0	3300.5	3304.3	3360.2	3491.1	3622.1	3785.7	3972.5
20°	3754.9	3695.2	3446.8	3288.9	3244.6	3244.6	3277.4	3383.3	3527.7	3718.3	3953.3
22.5°	4357.6	4265.2	3735.7	3454.5	3298.6	3283.1	3258.1	3339.0	3498.8	3728.0	4032.2
25°	5116.3	5072.0	4265.2	3895.5	3573.9	3523.8	3358.2	3387.1	3558.5	3831.9	4247.9
27.5°	5819.2	5742.1	4960.3	4536.7	4082.3	4005.2	3654.8	3537.3	3701.0	4024.5	4559.8
30°	6229.3	6177.3	5674.7	5270.4	4729.3	4631.1	4128.5	3833.9	3955.2	4342.2	5002.7
32.5°	6676.1	6645.2	6391.1	6023.3	5430.2	5316.6	4740.8	4317.2	4344.2	4763.9	5536.1
35°	7109.3	7149.8	7005.3	6735.7	6185.0	6079.1	5563.1	4948.8	4823.6	5237.6	6106.1
37.5°	7629.2	7638.9	7548.3	7373.1	6978.4	6891.7	6466.2	5622.8	5345.5	5742.1	6656.8
40°	8667.1	8515.0	8160.7	8022.0	7787.1	7733.2	7248.0	6240.9	5830.7	6260.1	7176.7
42.5°	9789.7	9552.9	8998.3	8771.1	8676.8	8626.7	7898.8	6652.9	6285.2	6778.1	7687.0
45°	10694.8	10502.2	9959.2	9678.1	9689.6	9608.7	8466.9	7020.7	6778.1	7298.0	8257.0
47.5°	11586.3	11264.8	10656.3	10615.8	10750.6	10631.2	9009.9	7388.5	7292.2	7864.1	8826.9
50°	11644.1	11351.4	11104.9	11428.4	11659.5	11511.2	9502.8	7869.9	7825.6	8549.7	9562.5
52.5°	10941.3	10898.9	11274.4	11819.3	12202.5	12069.7	9905.3	8364.8	8370.6	9406.6	10457.9
55°	10685.2	10631.2	11081.8	11751.9	12269.9	12191.0	10205.7	8923.2	8975.2	10446.4	11418.8
57.5°	11116.5	10981.7	11070.3	11624.8	12112.0	12065.8	10517.6	9543.3	9637.6	11644.1	12306.5
60°	12454.8	12179.4	11709.6	11813.6	12117.8	12090.8	10964.4	10234.6	10392.5	12891.9	12868.8
62.5°	14459.3	14147.4	13190.4	12728.2	12660.8	12608.8	11701.9	11083.8	11162.7	13793.1	12541.4
65°	16658.4	16323.3	15185.3	14428.5	14031.8	13920.2	12891.9	12108.2	11613.3	13791.1	11266.7
67.5°	19127.0	18772.7	17638.5	16916.4	16487.0	16296.3	14823.3	12936.2	11466.9	12624.2	9015.7
70°	21655.3	21318.3	20798.4	21050.7	21239.4	20948.6	17865.7	13211.5	10415.6	9897.6	6054.1
72.5°	20313.1	20286.2	20680.9	23072.5	26710.0	26767.8	20904.3	12433.6	8047.1	5882.7	3227.3
73°	19067.3	19180.9	19912.6	22774.1	27177.9	27197.2	20964.0	12031.1	7388.5	5068.2	2834.5
75°	9878.3	10648.6	13363.7	18466.5	25165.7	25256.2	18480.0	9108.1	4403.8	2815.2	1910.2
77.5°	2645.8	2611.1	4305.6	8996.4	16777.7	16658.4	11676.8	4409.6	2110.5	1765.8	1340.2
80°	907.0	918.5	1465.4	3290.8	7831.4	8110.6	5068.2	1923.7	1388.4	1230.5	949.3
82.5°	462.1	477.5	766.4	1399.9	3275.4	3206.1	1631.0	1132.3	930.1	747.1	531.5
85°	246.5	254.2	421.7	726.0	1201.6	1215.1	573.8	604.6	591.2	423.6	261.9
87.5°	121.3	125.2	202.2	319.6	444.8	429.4	200.3	261.9	290.8	238.8	144.4
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°	4590.6	4590.6	4590.6	4590.6	4590.6	4590.6	4590.6	4590.6	4590.6	4590.6	4590.6
2.5°	4559.8	4559.8	4584.9	4627.2	4658.0	4686.9	4706.2	4737.0	4754.3	4752.4	4750.5
5°	4529.0	4548.3	4598.3	4650.3	4685.0	4708.1	4708.1	4721.6	4721.6	4715.8	4708.1
7.5°	4457.8	4490.5	4563.7	4609.9	4619.5	4594.5	4544.4	4505.9	4457.8	4432.7	4423.1
10°	4344.2	4386.5	4478.9	4500.1	4450.1	4361.5	4240.2	4136.2	4043.8	4001.4	3987.9
12.5°	4232.5	4288.3	4375.0	4342.2	4222.8	4049.5	3862.8	3720.3	3616.3	3575.8	3562.4
15°	4140.0	4207.4	4274.8	4172.8	3964.8	3724.1	3518.1	3385.2	3306.3	3275.4	3267.7
17.5°	4078.4	4157.4	4180.5	3989.8	3701.0	3431.4	3248.5	3161.8	3127.2	3113.7	3109.8
20°	4082.3	4170.8	4115.0	3812.7	3446.8	3175.3	3054.0	3029.0	3029.0	3029.0	3027.0
22.5°	4188.2	4265.2	4088.0	3647.1	3202.3	2959.6	2907.7	2928.8	2944.2	2944.2	2942.3
25°	4407.7	4450.1	4107.3	3487.3	2973.1	2772.9	2774.8	2815.2	2828.7	2828.7	2824.9
27.5°	4742.8	4708.1	4142.0	3310.1	2747.8	2603.4	2630.4	2667.0	2676.6	2670.8	2668.9
30°	5162.5	5023.9	4170.8	3102.1	2536.0	2445.5	2468.6	2489.8	2482.1	2468.6	2466.7
32.5°	5632.4	5345.5	4153.5	2869.1	2349.2	2281.8	2295.3	2306.9	2295.3	2262.6	2262.6
35°	6098.4	5636.2	4059.2	2615.0	2201.0	2123.9	2122.0	2158.6	2156.7	2118.2	2120.1
37.5°	6506.6	5865.4	3876.2	2382.0	2073.9	2008.4	2016.1	2039.2	2050.8	1998.8	1993.0
40°	6862.8	6023.3	3618.2	2183.6	1971.8	1975.7	1954.5	1917.9	1904.4	1881.3	1877.5
42.5°	7197.9	6133.0	3344.8	2018.0	1919.8	1964.1	1892.9	1806.2	1769.6	1790.8	1804.3
45°	7527.2	6256.3	3081.0	1881.3	1854.4	1929.5	1831.2	1735.0	1692.6	1702.2	1715.7
47.5°	7929.6	6427.7	2763.2	1735.0	1754.2	1865.9	1792.7	1688.8	1625.2	1586.7	1575.1
50°	8459.2	6676.1	2351.2	1577.1	1648.3	1796.6	1760.0	1621.4	1552.0	1475.0	1455.8
52.5°	9121.6	6911.0	1935.2	1450.0	1561.7	1736.9	1706.1	1563.6	1478.9	1386.4	1371.0
55°	9782.0	6943.7	1577.1	1340.2	1463.5	1656.0	1640.6	1517.4	1398.0	1322.9	1307.5
57.5°	10244.2	6633.7	1336.4	1247.8	1369.1	1555.9	1580.9	1461.5	1330.6	1272.8	1263.2
60°	10251.9	5892.3	1190.0	1186.2	1297.9	1469.2	1519.3	1396.1	1288.2	1249.7	1242.0
62.5°	9437.4	4748.5	1095.7	1140.0	1245.9	1398.0	1473.1	1359.5	1278.6	1263.2	1255.5
65°	7910.4	3508.4	1020.6	1097.6	1197.7	1338.3	1434.6	1347.9	1274.7	1269.0	1263.2
67.5°	5840.3	2405.1	957.0	1043.7	1143.8	1276.7	1398.0	1330.6	1251.6	1274.7	1267.0
70°	3674.0	1605.9	897.3	982.1	1072.6	1205.4	1349.8	1299.8	1222.8	1209.3	1184.2
72.5°	2073.9	1161.1	826.1	903.1	980.1	1111.1	1284.4	1247.8	1157.3	1103.4	1078.3
73°	1873.6	1099.5	808.8	883.9	958.9	1091.8	1269.0	1232.4	1138.0	1078.3	1055.2
75°	1371.0	899.3	729.8	804.9	870.4	1003.2	1195.8	1155.4	1053.3	982.1	966.7
77.5°	993.6	693.2	627.7	695.1	752.9	880.0	1086.0	1039.8	939.7	901.2	885.8
80°	716.3	525.7	519.9	585.4	635.4	764.5	968.6	920.4	824.2	937.8	912.7
82.5°	427.5	337.0	381.3	454.4	506.4	641.2	841.5	785.6	693.2	700.9	596.9
85°	204.1	190.6	236.8	298.5	335.1	439.0	700.9	656.6	554.6	454.4	444.8
87.5°	90.5	86.7	113.6	132.9	179.1	263.8	479.5	425.6	402.5	240.7	188.7
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)