

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: P270585

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270585
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-SL2-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 1050mA 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: 25611.8 lumens
Efficiency: N/A
Efficacy: 91.8 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

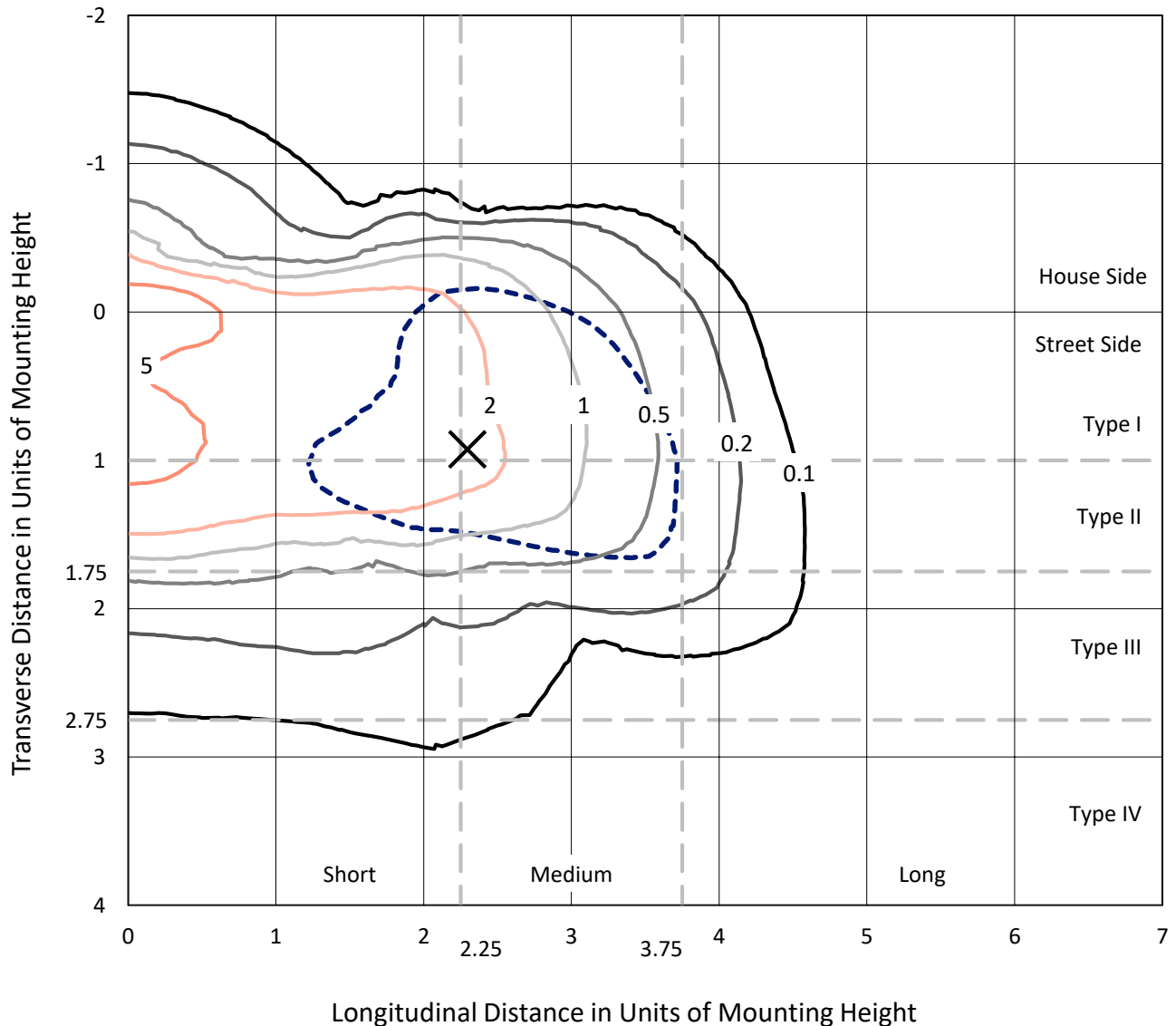
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

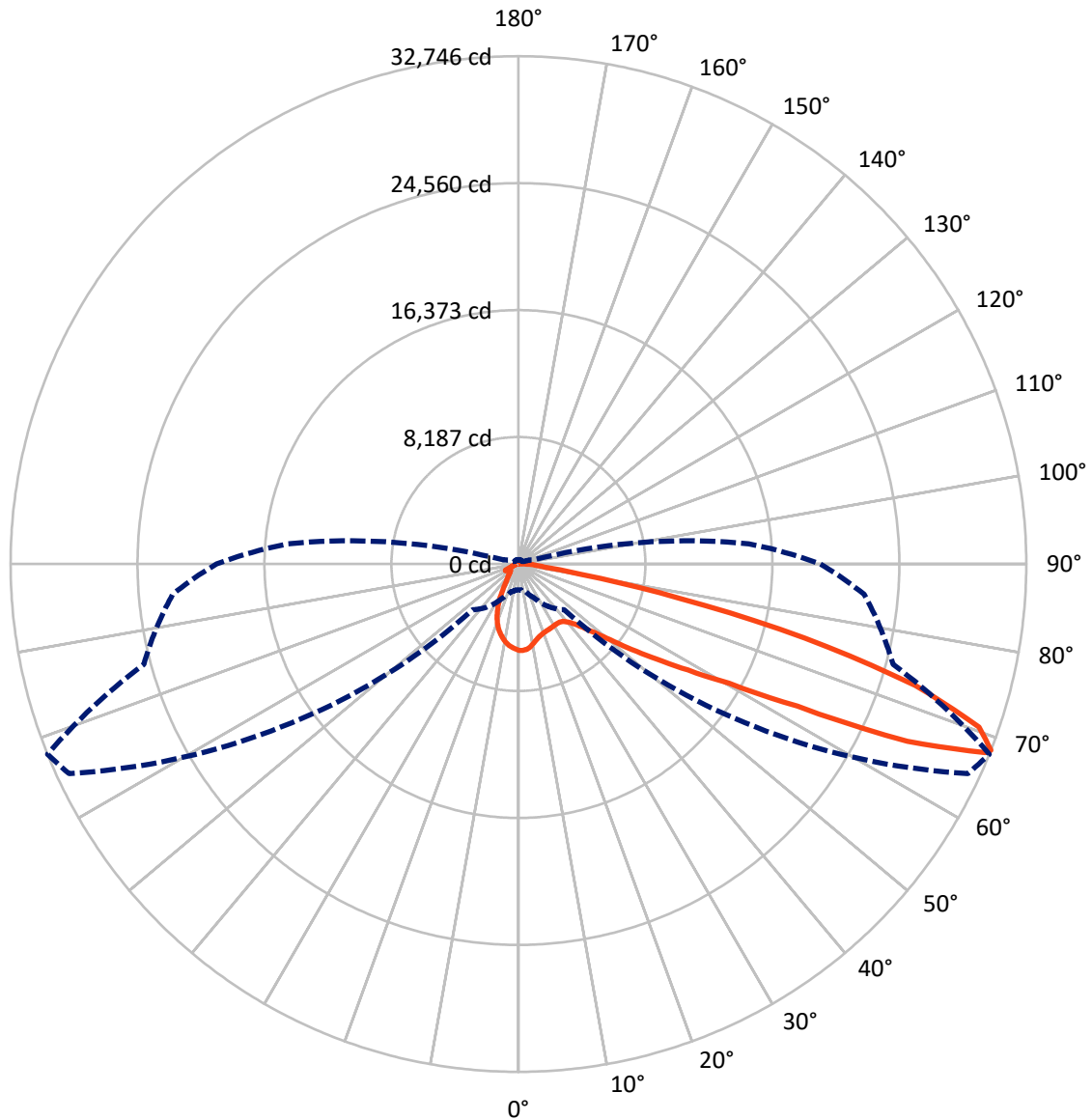
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.9 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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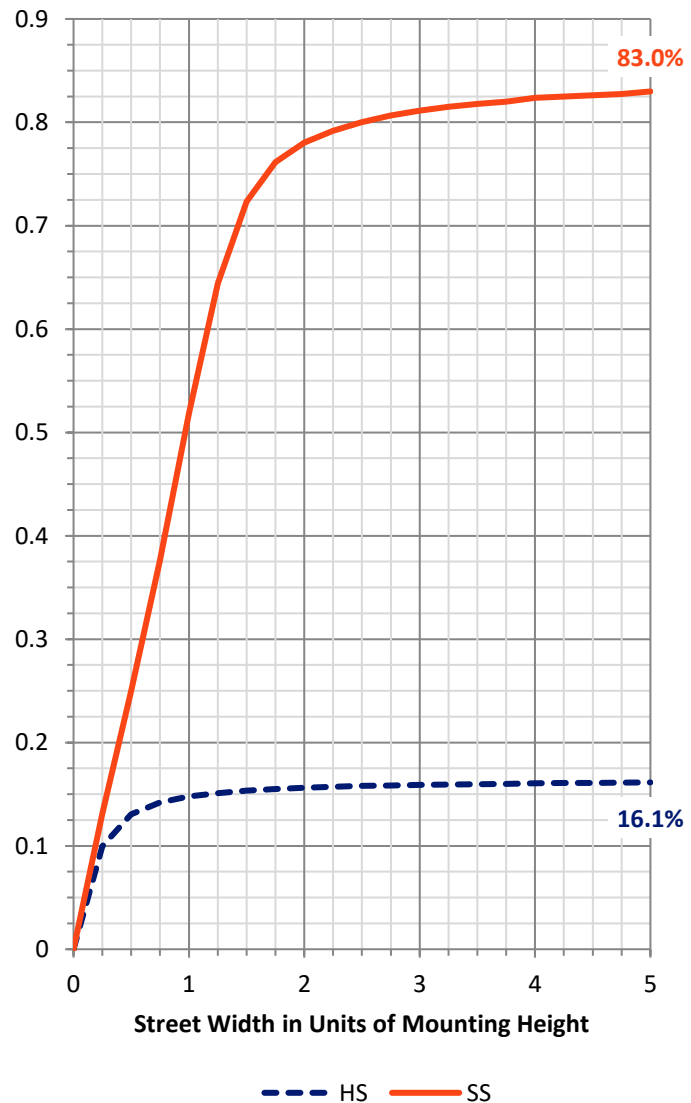
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4190.2	0.0	4190.2
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	21421.6	0.0	21421.6
	% Fixture	83.6	0.0	83.6
Total	Lumens	25611.8	0.0	25611.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	477.5	1.9
10°-20°	1107.5	4.3
20°-30°	1497.9	5.8
30°-40°	2111.9	8.2
40°-50°	3472.8	13.6
50°-60°	5383.1	21.0
60°-70°	6979.6	27.3
70°-80°	4005.3	15.6
80°-90°	576.3	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°	25611.8	100.0
0°-180°	25611.8	100.0



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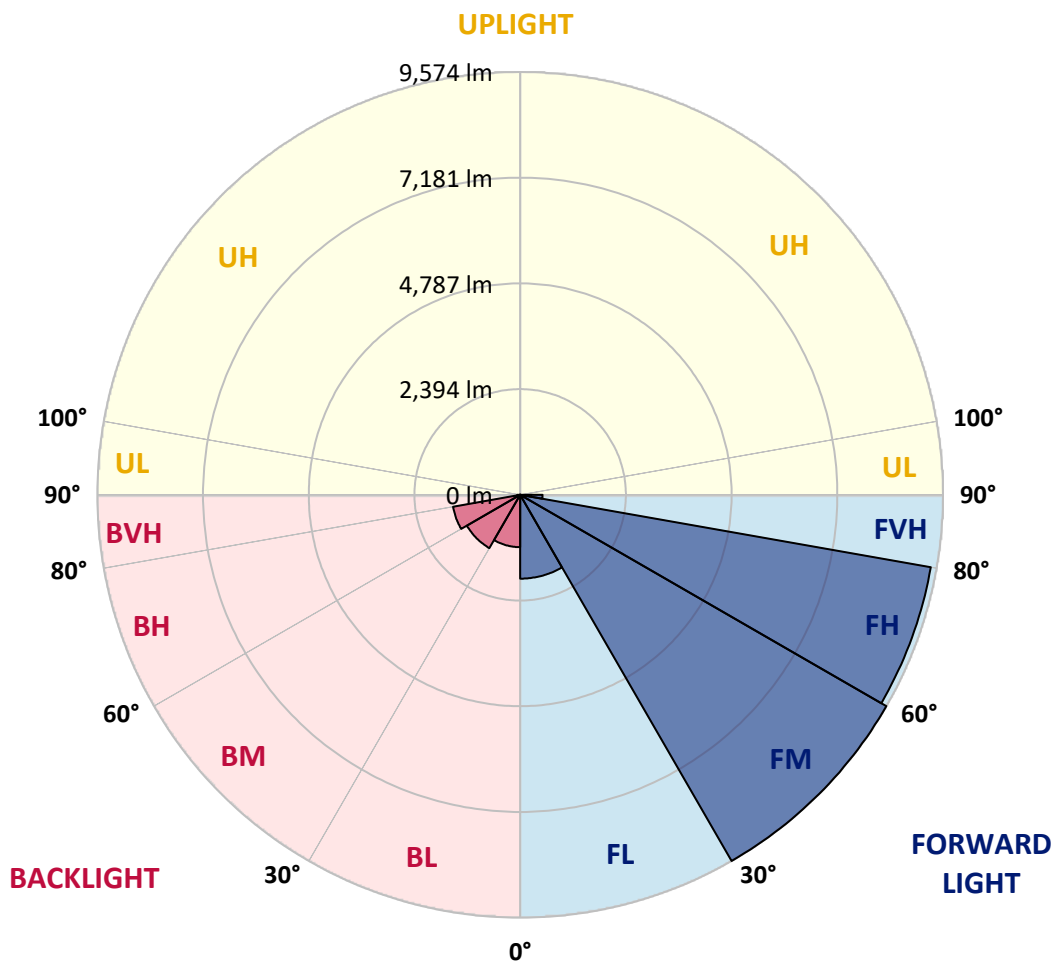
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1898.2	7.4			
FM	(30°-60°)	9574.1	37.4			
FH	(60°-80°)	9441.7	36.9			G4/12000
FVH	(80°-90°)	507.6	2.0			G4/750
BL	(0°-30°)	1184.6	4.6	B3/2500		
BM	(30°-60°)	1393.7	5.4	B2/2500		
BH	(60°-80°)	1543.2	6.0	B3/2500		G3/2500
BVH	(80°-90°)	68.7	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°	5572.8	5572.8	5572.8	5572.8	5572.8	5572.8	5572.8	5572.8	5572.8	5572.8	5572.8
2.5°	5424.0	5467.4	5467.4	5499.2	5527.7	5551.2	5571.2	5571.2	5571.2	5557.9	5546.1
5°	4853.5	4912.0	4920.3	5000.8	5106.1	5235.0	5378.8	5506.0	5531.0	5577.9	5596.4
7.5°	4457.0	4475.4	4507.2	4562.4	4669.5	4828.4	5054.3	5338.6	5407.3	5554.5	5631.5
10°	4176.0	4191.0	4217.7	4273.0	4370.0	4513.9	4736.4	5106.1	5220.0	5480.9	5633.1
12.5°	3970.1	3981.8	4006.9	4057.1	4155.7	4284.6	4512.1	4897.0	5037.5	5407.3	5656.5
15°	3809.5	3829.6	3849.6	3898.1	3998.5	4122.3	4353.2	4744.8	4897.0	5348.7	5700.0
17.5°	3745.9	3756.0	3759.2	3784.4	3874.7	4000.2	4231.0	4637.7	4795.0	5301.8	5733.5
20°	3786.0	3787.8	3754.2	3737.6	3789.4	3904.8	4129.1	4557.3	4718.0	5260.0	5746.8
22.5°	3961.7	3961.7	3874.7	3801.2	3766.1	3838.0	4060.5	4502.1	4676.1	5228.2	5746.8
25°	4296.4	4281.3	4145.8	4000.2	3844.7	3814.6	4017.0	4467.0	4644.3	5211.4	5725.2
27.5°	4736.4	4723.0	4550.6	4334.9	4053.8	3864.7	4001.9	4438.5	4612.5	5186.5	5678.2
30°	5271.8	5260.0	5064.3	4781.6	4366.7	4023.7	4037.1	4418.6	4587.5	5144.7	5599.7
32.5°	5805.4	5798.7	5643.2	5353.7	4798.2	4293.0	4129.1	4415.2	4574.1	5094.4	5504.4
35°	6342.6	6342.6	6247.2	6002.8	5378.8	4697.9	4321.4	4477.1	4599.2	5067.6	5422.3
37.5°	7135.4	7103.7	6926.4	6673.8	6109.9	5223.3	4632.6	4607.5	4696.2	5112.9	5395.6
40°	8363.5	8271.6	7828.1	7403.2	6908.0	5895.8	5087.7	4860.2	4913.6	5266.8	5459.1
42.5°	9648.4	9502.9	8915.6	8236.4	7732.8	6725.6	5685.0	5270.0	5268.4	5564.6	5661.6
45°	10750.9	10675.6	10039.8	9178.3	8674.8	7659.2	6439.5	5879.0	5818.9	6026.3	6051.4
47.5°	11391.8	11341.6	10958.5	10175.5	9792.3	8761.7	7396.6	6724.0	6610.2	6734.0	6695.4
50°	11214.4	11262.9	11152.5	10752.6	10993.5	10310.9	8616.2	7881.6	7665.9	7789.7	7696.0
52.5°	10280.8	10411.4	10510.0	10587.0	11684.6	12383.9	10148.6	9327.2	9148.2	9126.4	9036.1
55°	8599.5	8806.9	9118.1	9683.5	11498.8	14048.6	12825.6	11075.6	10814.5	10677.3	10712.5
57.5°	5852.3	6166.9	6837.7	7913.4	10533.4	14757.9	16783.9	13334.1	12892.5	12403.8	12517.7
60°	3223.9	3486.6	4284.6	5368.8	8330.1	14652.4	20292.4	17004.7	15614.5	14319.5	14553.8
62.5°	2086.3	2143.1	2737.0	3667.3	5112.9	12936.0	22241.3	23139.8	20193.5	16845.8	17175.5
65°	1676.3	1716.5	2007.6	2957.8	3561.9	8321.7	22328.5	29504.0	27561.6	20278.9	20288.8
67.5°	1637.9	1656.4	1825.3	2487.8	3341.1	4530.6	19300.2	32013.5	32463.7	24331.0	22371.8
68°	1661.3	1683.1	1853.7	2410.8	3339.4	4176.0	17838.0	31975.1	32746.4	25008.5	22371.8
70°	1465.6	1492.4	1890.6	2494.6	3197.2	3590.3	12214.9	30277.0	31518.4	26566.1	21227.5
72.5°	766.3	744.4	935.2	1969.2	3598.7	3740.9	6453.0	25294.7	26743.5	24603.7	18339.8
75°	597.3	543.7	523.6	777.9	3165.4	3879.8	3747.5	17978.5	19072.6	17735.9	12258.4
77.5°	562.1	496.9	458.5	460.1	1393.6	4037.1	3031.5	10580.2	10580.2	8460.5	3911.6
80°	451.7	391.5	366.4	418.3	672.7	3720.8	3163.7	4821.7	4112.4	2186.7	1077.4
82.5°	297.8	266.0	267.6	339.6	510.2	2484.4	3663.9	2380.8	1788.4	968.7	634.1
85°	189.1	162.2	180.6	237.6	381.4	1107.5	3627.1	1654.7	1184.5	543.7	316.3
87.5°	95.4	73.7	90.3	123.7	232.5	317.9	2986.3	1477.4	878.4	225.8	172.4
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°	5572.8	5572.8	5572.8	5572.8	5572.8	5572.8	5572.8	5572.8	5572.8	5572.8	5572.8
2.5°	5546.1	5509.3	5490.9	5460.7	5424.0	5387.1	5362.2	5350.3	5343.7	5347.0	5345.4
5°	5586.3	5537.7	5459.1	5347.0	5231.5	5109.5	5015.7	4943.8	4898.6	4885.3	4881.8
7.5°	5616.5	5546.1	5399.0	5194.8	4997.5	4783.3	4600.8	4455.4	4356.6	4311.4	4309.8
10°	5611.4	5521.1	5288.5	4987.3	4697.9	4383.4	4097.3	3853.0	3675.7	3590.3	3587.0
12.5°	5616.5	5492.5	5152.9	4744.8	4329.8	3879.8	3454.8	3075.1	2810.6	2685.3	2680.3
15°	5636.4	5462.5	5014.1	4473.6	3899.8	3264.1	2656.7	2179.9	1939.0	1857.1	1857.1
17.5°	5634.8	5412.3	4853.5	4159.2	3389.6	2538.0	1813.6	1519.2	1495.7	1571.0	1582.8
20°	5601.3	5332.0	4646.0	3786.0	2790.7	1756.6	1229.7	1187.9	1375.2	1582.8	1606.1
22.5°	5549.5	5228.2	4406.7	3352.7	2093.1	1144.4	948.6	1012.2	1266.5	1524.2	1561.0
25°	5477.5	5102.7	4132.5	2849.2	1392.0	823.1	791.3	870.0	1049.0	1221.3	1248.0
27.5°	5372.1	4943.8	3833.0	2303.8	888.3	677.6	689.3	744.4	821.5	895.2	910.2
30°	5240.0	4758.1	3506.8	1699.9	674.3	605.6	625.7	659.1	692.7	739.5	749.5
32.5°	5106.1	4569.0	3167.1	1167.7	588.8	567.2	587.2	605.6	634.1	665.9	672.7
35°	4985.7	4393.4	2817.4	814.8	552.1	542.0	552.1	563.9	592.3	624.1	627.3
37.5°	4898.6	4249.5	2452.7	644.2	530.4	520.3	525.2	530.4	563.9	610.7	615.7
40°	4887.0	4154.1	2082.9	578.9	513.7	500.3	496.9	500.3	543.7	597.3	602.4
42.5°	5000.8	4159.2	1721.5	552.1	500.3	485.2	471.8	478.4	517.0	558.7	562.1
45°	5270.0	4276.3	1408.7	540.4	488.5	476.8	456.8	460.1	478.4	500.3	503.6
47.5°	5745.2	4532.3	1169.5	533.8	478.4	468.5	443.4	433.3	435.0	446.6	446.6
50°	6504.7	4960.6	1023.9	527.0	470.2	451.7	423.3	403.2	398.2	404.9	406.6
52.5°	7637.4	5695.1	953.6	513.7	455.1	430.0	398.2	378.0	369.7	376.4	376.4
55°	9168.2	6867.8	920.1	495.2	436.7	403.2	374.8	358.1	351.3	356.4	356.4
57.5°	10913.1	8392.0	977.0	470.2	413.2	374.8	354.7	343.0	337.9	343.0	344.6
60°	12986.1	10386.3	1368.6	438.4	388.2	349.7	337.9	331.3	327.9	332.9	332.9
62.5°	15741.5	13039.6	2118.1	413.2	361.4	326.3	322.9	319.5	316.3	321.2	321.2
65°	18716.2	15453.8	2179.9	398.2	337.9	306.1	307.8	307.8	304.4	309.6	309.6
67.5°	19663.2	15244.7	1218.0	379.8	309.6	286.1	292.8	292.8	291.1	296.1	294.5
68°	19462.5	14913.4	1060.7	374.8	304.4	281.1	287.7	289.4	287.7	292.8	291.1
70°	17966.8	13093.2	697.7	346.3	282.7	264.3	274.4	276.0	274.4	281.1	279.5
72.5°	14831.5	9820.7	515.3	302.8	255.9	242.6	252.7	254.3	255.9	262.7	261.0
75°	9419.2	5424.0	406.6	257.6	229.2	217.5	227.5	232.5	235.9	246.0	240.9
77.5°	2579.8	1646.2	329.6	219.1	197.4	192.3	199.1	205.8	209.1	220.9	212.4
80°	903.4	727.7	274.4	185.7	164.0	162.2	169.1	175.7	179.0	189.1	179.0
82.5°	548.8	475.2	219.1	145.5	128.8	127.1	135.6	142.2	145.5	145.5	138.9
85°	286.1	250.9	160.5	102.0	88.7	83.6	98.8	107.1	108.8	107.1	102.0
87.5°	160.5	142.2	85.2	48.5	40.2	41.9	51.8	63.6	68.6	67.0	63.6
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)