

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: P195142

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195142
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-04-D-UNV-SL2-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 1200mA 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: 26238 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 258
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

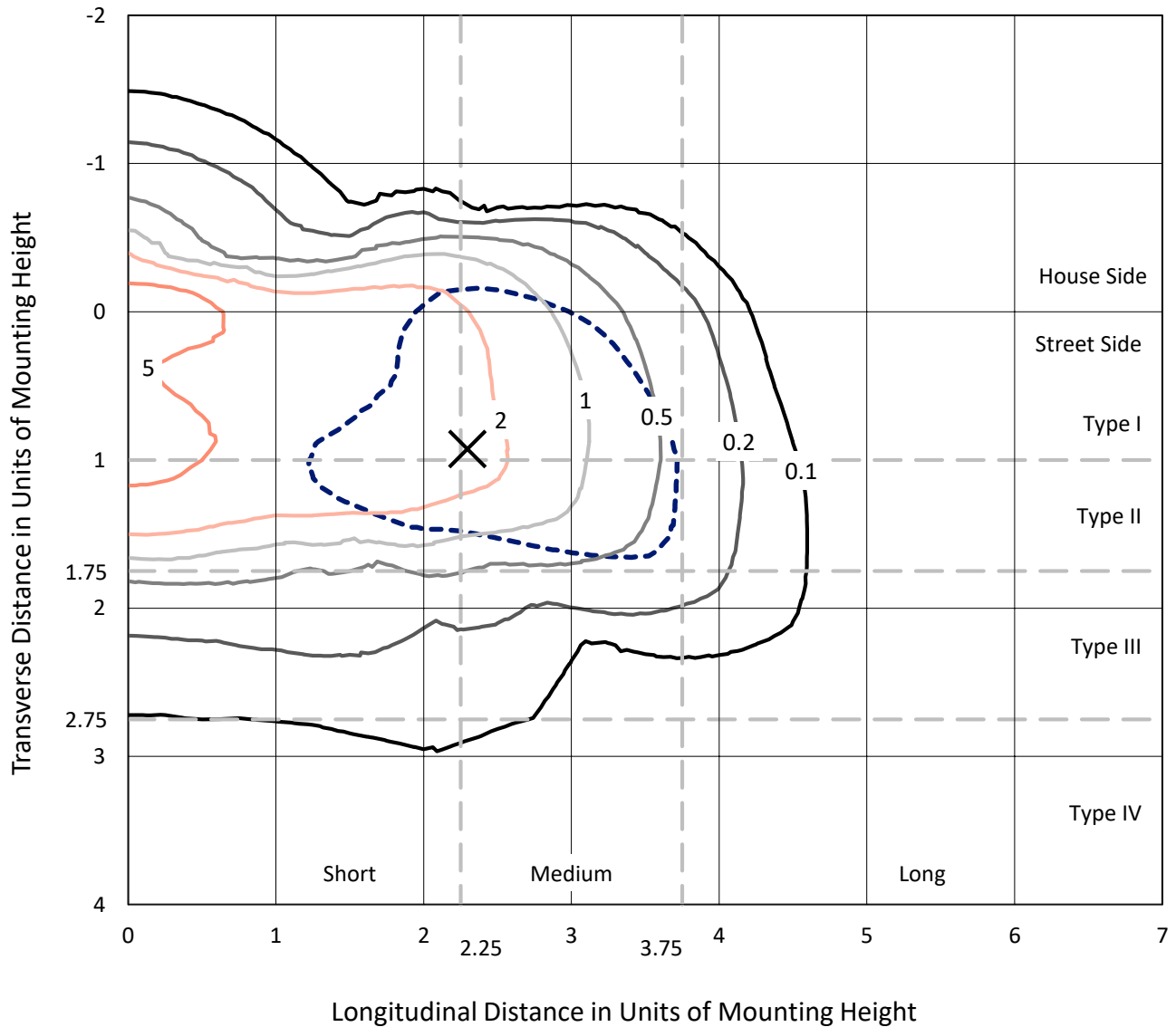


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Iso-Footcandle Lines of Horizontal Illumination

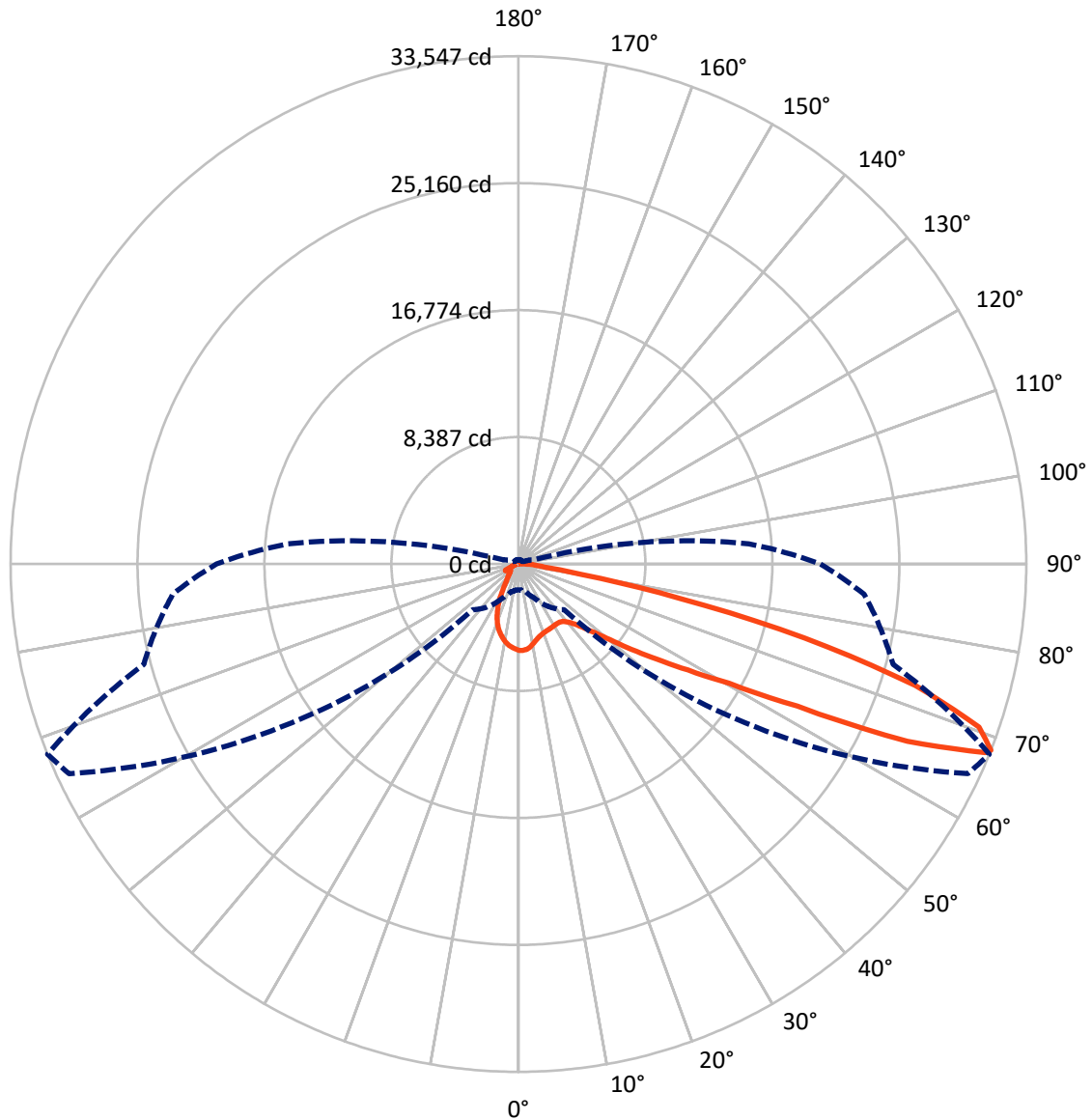
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.1 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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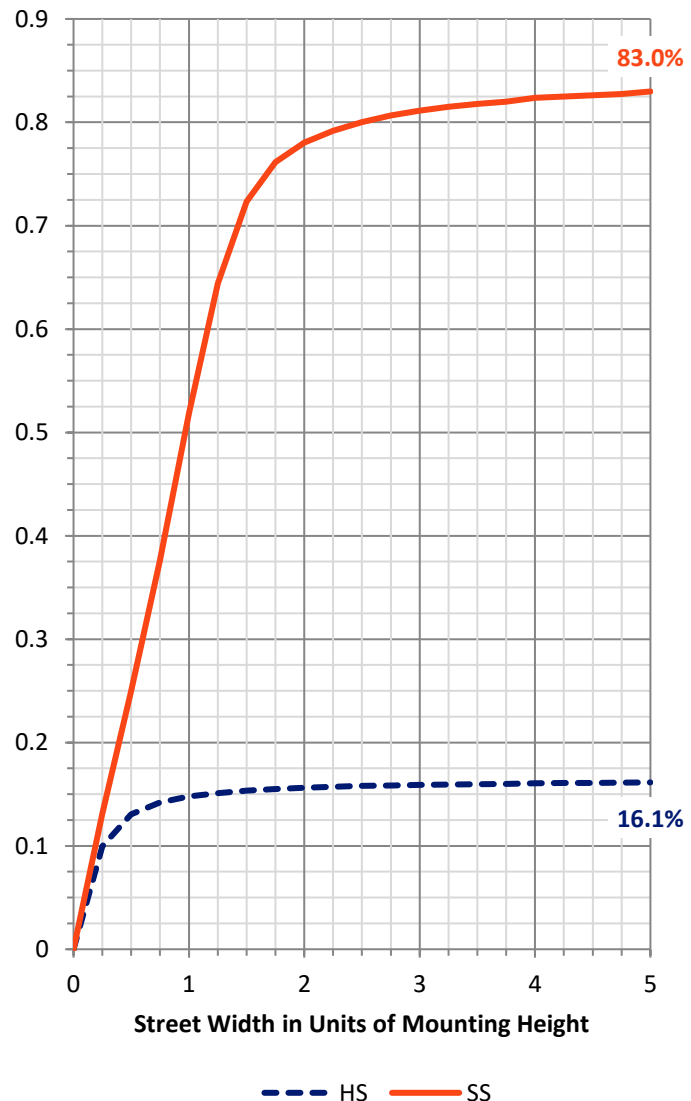
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4292.6	0.0	4292.6
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	21945.4	0.0	21945.4
	% Fixture	83.6	0.0	83.6
Total	Lumens	26238.0	0.0	26238.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	489.2	1.9
10°-20°	1134.6	4.3
20°-30°	1534.5	5.8
30°-40°	2163.5	8.2
40°-50°	3557.7	13.6
50°-60°	5514.7	21.0
60°-70°	7150.3	27.3
70°-80°	4103.2	15.6
80°-90°	590.4	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°	26238.0	100.0
0°-180°	26238.0	100.0

Coefficient of Utilization



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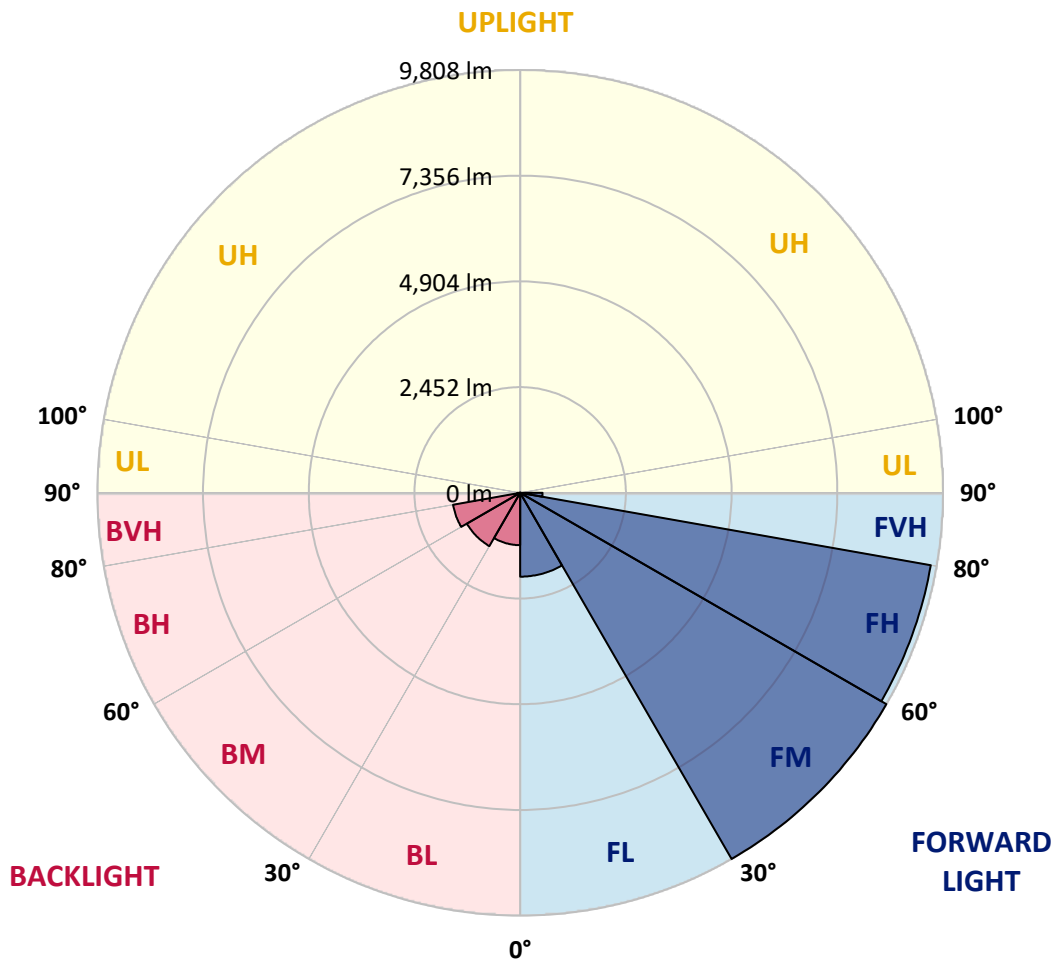
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1944.7	7.4			
FM	(30°-60°)	9808.2	37.4			
FH	(60°-80°)	9672.5	36.9			G4/12000
FVH	(80°-90°)	520.0	2.0			G4/750
BL	(0°-30°)	1213.6	4.6	B3/2500		
BM	(30°-60°)	1427.8	5.4	B2/2500		
BH	(60°-80°)	1580.9	6.0	B3/2500		G3/2500
BVH	(80°-90°)	70.4	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°	5709.2	5709.2	5709.2	5709.2	5709.2	5709.2	5709.2	5709.2	5709.2	5709.2	5709.2
2.5°	5556.6	5601.2	5601.2	5633.7	5662.9	5686.9	5707.4	5707.4	5707.4	5693.7	5681.7
5°	4972.2	5032.1	5040.7	5123.0	5231.0	5362.9	5510.3	5640.6	5666.3	5714.3	5733.1
7.5°	4566.0	4584.8	4617.4	4673.9	4783.6	4946.4	5177.8	5469.2	5539.5	5690.3	5769.1
10°	4278.0	4293.4	4320.9	4377.4	4476.8	4624.2	4852.2	5231.0	5347.5	5614.9	5770.9
12.5°	4067.2	4079.2	4104.9	4156.3	4257.4	4389.4	4622.5	5016.7	5160.7	5539.5	5794.9
15°	3902.7	3923.2	3943.8	3993.5	4096.3	4223.2	4459.7	4860.8	5016.7	5479.5	5839.4
17.5°	3837.5	3847.8	3851.2	3876.9	3969.5	4098.0	4334.6	4751.1	4912.2	5431.5	5873.7
20°	3878.7	3880.4	3846.1	3829.0	3882.1	4000.4	4230.0	4668.8	4833.3	5388.6	5887.4
22.5°	4058.6	4058.6	3969.5	3894.1	3858.1	3931.8	4159.7	4612.2	4790.5	5356.1	5887.4
25°	4401.4	4386.0	4247.2	4098.0	3938.6	3907.8	4115.2	4576.2	4757.9	5338.9	5865.1
27.5°	4852.2	4838.5	4661.9	4440.8	4152.9	3959.2	4099.8	4547.1	4725.3	5313.2	5817.1
30°	5400.6	5388.6	5188.1	4898.5	4473.4	4122.0	4135.8	4526.5	4699.6	5270.4	5736.6
32.5°	5947.4	5940.5	5781.1	5484.6	4915.6	4398.0	4230.0	4523.1	4685.9	5219.0	5638.9
35°	6497.6	6497.6	6399.9	6149.6	5510.3	4812.8	4427.1	4586.5	4711.6	5191.5	5554.9
37.5°	7310.0	7277.4	7095.7	6836.9	6259.3	5350.9	4745.9	4720.2	4811.0	5237.8	5527.5
40°	8568.0	8473.7	8019.6	7584.2	7076.9	6039.9	5212.1	4979.0	5033.9	5395.5	5592.6
42.5°	9884.3	9735.2	9133.6	8437.8	7921.9	6890.1	5824.0	5398.9	5397.2	5700.6	5800.0
45°	11013.8	10936.7	10285.4	9402.7	8886.8	7846.4	6597.0	6022.8	5961.1	6173.6	6199.3
47.5°	11670.3	11618.8	11226.3	10424.2	10031.7	8975.9	7577.4	6888.3	6771.8	6898.6	6859.2
50°	11488.6	11538.3	11425.2	11015.5	11262.3	10563.1	8826.8	8074.4	7853.3	7980.1	7884.2
52.5°	10532.2	10665.9	10767.0	10845.9	11970.2	12686.6	10396.8	9555.2	9371.9	9349.6	9257.0
55°	8809.7	9022.2	9341.0	9920.3	11780.0	14392.0	13139.1	11346.3	11078.9	10938.4	10974.4
57.5°	5995.4	6317.6	7004.9	8107.0	10791.0	15118.7	17194.3	13660.2	13207.7	12707.2	12823.7
60°	3302.8	3571.9	4389.4	5500.1	8533.7	15010.7	20788.5	17420.5	15996.3	14669.7	14909.6
62.5°	2137.3	2195.6	2804.0	3757.0	5237.8	13252.2	22785.2	23705.6	20687.3	17257.7	17595.4
65°	1717.4	1758.5	2056.7	3030.3	3649.0	8525.2	22874.3	30225.4	28235.5	20774.7	20785.0
67.5°	1678.0	1696.8	1869.9	2548.6	3422.8	4641.4	19772.1	32796.4	33257.4	24925.9	22918.9
68°	1701.9	1724.2	1899.1	2469.8	3421.0	4278.0	18274.1	32756.9	33547.1	25620.1	22918.9
70°	1501.4	1528.8	1936.8	2555.5	3275.4	3678.1	12513.5	31017.3	32289.0	27215.8	21746.5
72.5°	785.0	762.7	958.1	2017.3	3686.7	3832.4	6610.7	25913.2	27397.4	25205.3	18788.3
75°	611.9	557.0	536.5	797.0	3242.8	3974.6	3839.2	18418.1	19539.0	18169.5	12558.1
77.5°	575.9	509.0	469.6	471.3	1427.7	4135.8	3105.7	10839.0	10839.0	8667.4	4007.2
80°	462.8	401.1	375.4	428.5	689.0	3811.8	3241.1	4939.6	4212.9	2240.1	1103.8
82.5°	305.1	272.5	274.2	347.9	522.8	2545.2	3753.5	2438.9	1832.2	992.4	649.6
85°	193.7	166.3	185.1	243.4	390.8	1134.6	3715.8	1695.1	1213.5	557.0	323.9
87.5°	97.7	75.4	92.6	126.8	238.2	325.6	3059.4	1513.4	899.8	231.4	176.5
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°	5709.2	5709.2	5709.2	5709.2	5709.2	5709.2	5709.2	5709.2	5709.2	5709.2	5709.2
2.5°	5681.7	5644.0	5625.2	5594.3	5556.6	5518.9	5493.2	5481.2	5474.3	5477.8	5476.1
5°	5722.9	5673.2	5592.6	5477.8	5359.5	5234.4	5138.4	5064.7	5018.4	5004.7	5001.3
7.5°	5753.7	5681.7	5530.9	5321.8	5119.6	4900.2	4713.4	4564.2	4463.1	4416.8	4415.1
10°	5748.6	5656.0	5417.8	5109.3	4812.8	4490.5	4197.5	3947.2	3765.5	3678.1	3674.7
12.5°	5753.7	5626.9	5279.0	4860.8	4435.7	3974.6	3539.3	3150.2	2879.4	2750.9	2745.7
15°	5774.3	5596.0	5136.7	4583.1	3995.2	3343.9	2721.7	2233.3	1986.5	1902.5	1902.5
17.5°	5772.6	5544.6	4972.2	4260.9	3472.5	2600.1	1857.9	1556.3	1532.3	1609.4	1621.4
20°	5738.3	5462.3	4759.6	3878.7	2858.9	1799.6	1259.8	1216.9	1408.9	1621.4	1645.4
22.5°	5685.2	5356.1	4514.5	3434.7	2144.1	1172.3	971.8	1036.9	1297.5	1561.4	1599.1
25°	5611.5	5227.5	4233.4	2918.9	1426.0	843.3	810.7	891.3	1074.6	1251.2	1278.6
27.5°	5503.5	5064.7	3926.7	2360.1	910.1	694.1	706.1	762.7	841.5	917.0	932.4
30°	5368.1	4874.5	3592.4	1741.4	690.7	620.4	641.0	675.3	709.6	757.6	767.8
32.5°	5231.0	4680.8	3244.5	1196.3	603.3	581.0	601.6	620.4	649.6	682.2	689.0
35°	5107.6	4500.8	2886.3	834.7	565.6	555.3	565.6	577.6	606.7	639.3	642.7
37.5°	5018.4	4353.4	2512.6	659.9	543.3	533.0	538.2	543.3	577.6	625.6	630.7
40°	5006.4	4255.7	2133.9	593.0	526.2	512.5	509.0	512.5	557.0	611.9	617.0
42.5°	5123.0	4260.9	1763.7	565.6	512.5	497.0	483.3	490.2	529.6	572.5	575.9
45°	5398.9	4380.8	1443.1	553.6	500.5	488.5	467.9	471.3	490.2	512.5	515.9
47.5°	5885.7	4643.1	1198.0	546.7	490.2	479.9	454.2	443.9	445.6	457.6	457.6
50°	6663.8	5081.9	1048.9	539.9	481.6	462.8	433.6	413.1	407.9	414.8	416.5
52.5°	7824.2	5834.3	976.9	526.2	466.2	440.5	407.9	387.4	378.8	385.6	385.6
55°	9392.4	7035.7	942.7	507.3	447.3	413.1	383.9	366.8	359.9	365.1	365.1
57.5°	11180.1	8597.2	1000.9	481.6	423.3	383.9	363.4	351.4	346.2	351.4	353.1
60°	13303.7	10640.2	1402.0	449.1	397.6	358.2	346.2	339.4	335.9	341.1	341.1
62.5°	16126.5	13358.5	2169.9	423.3	370.2	334.2	330.8	327.4	323.9	329.1	329.1
65°	19173.9	15831.7	2233.3	407.9	346.2	313.7	315.4	315.4	311.9	317.1	317.1
67.5°	20144.0	15617.5	1247.8	389.1	317.1	293.1	299.9	299.9	298.2	303.4	301.7
68°	19938.3	15278.1	1086.6	383.9	311.9	287.9	294.8	296.5	294.8	299.9	298.2
70°	18406.1	13413.3	714.7	354.8	289.7	270.8	281.1	282.8	281.1	287.9	286.2
72.5°	15194.1	10060.9	527.9	310.2	262.2	248.5	258.8	260.5	262.2	269.1	267.4
75°	9649.5	5556.6	416.5	263.9	234.8	222.8	233.1	238.2	241.7	252.0	246.8
77.5°	2642.9	1686.5	337.6	224.5	202.2	197.1	204.0	210.8	214.2	226.2	217.7
80°	925.5	745.6	281.1	190.2	168.0	166.3	173.1	180.0	183.4	193.7	183.4
82.5°	562.2	486.8	224.5	149.1	132.0	130.3	138.8	145.7	149.1	149.1	142.3
85°	293.1	257.1	164.5	104.6	90.8	85.7	101.1	109.7	111.4	109.7	104.6
87.5°	164.5	145.7	87.4	49.7	41.1	42.8	53.1	65.1	70.3	68.6	65.1
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)