

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: P197027

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-8030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197027
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
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-SL2-8030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16171 lumens
Efficiency: N/A
Efficacy: 77.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

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

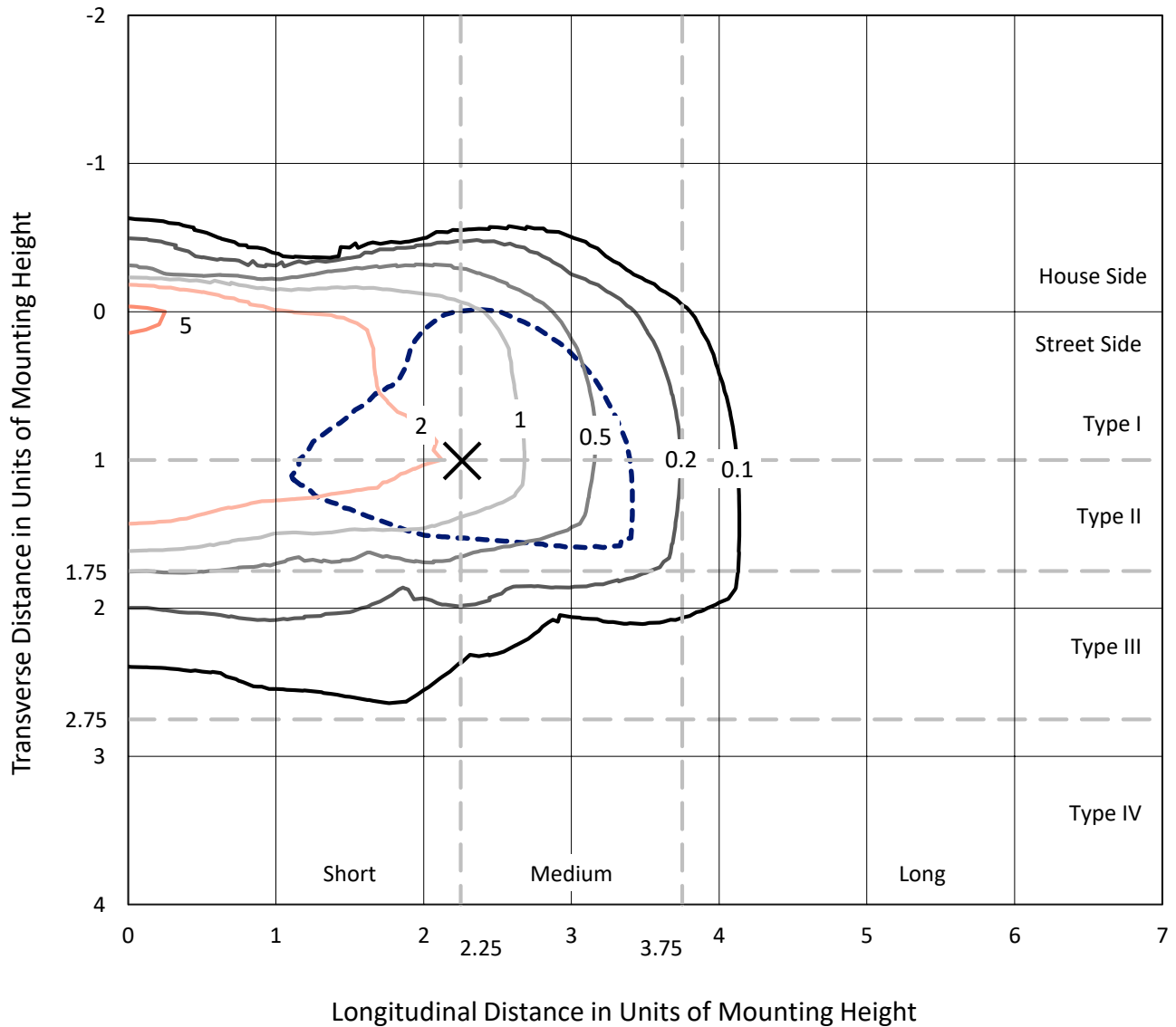


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

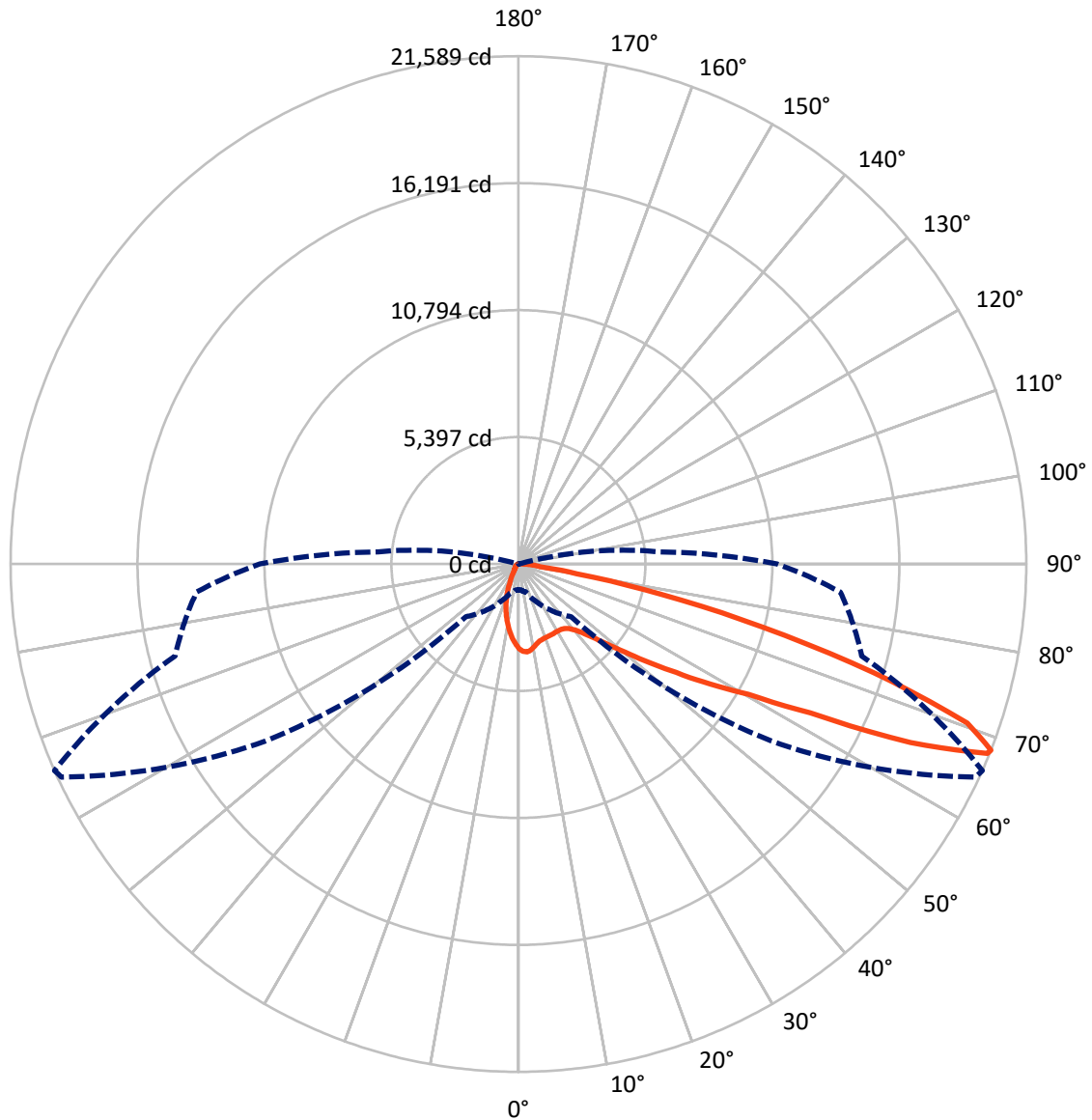


Based on 25 foot mounting height. Maximum calculated value = 5.8 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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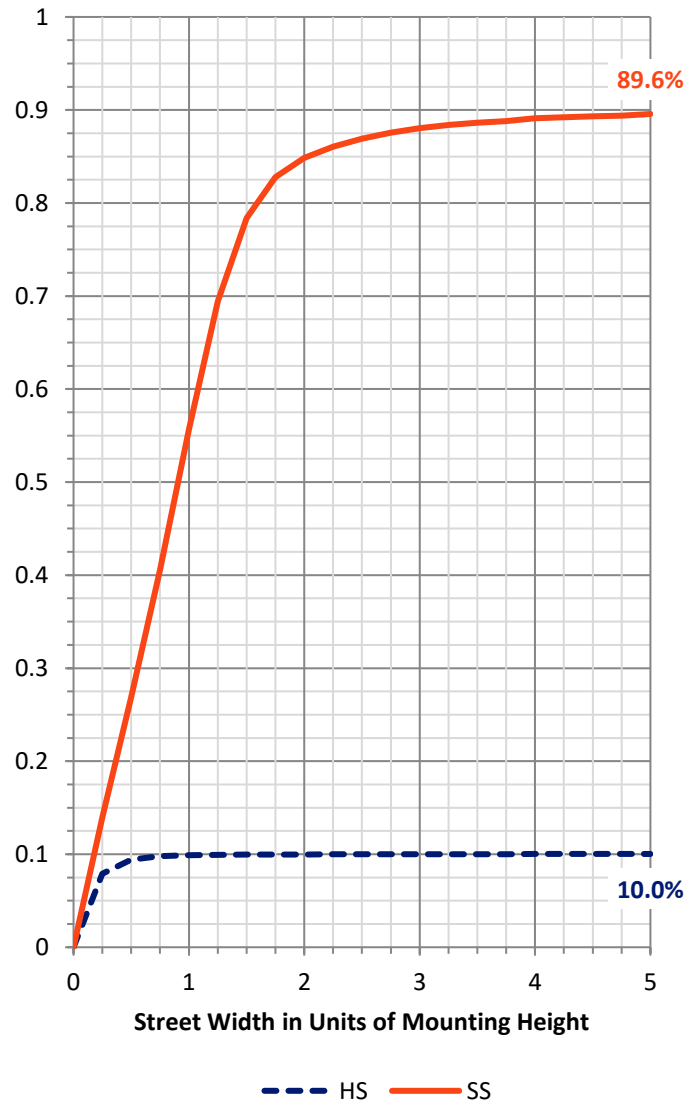
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1637.9	0.0	1637.9
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	14533.1	0.0	14533.1
	% Fixture	89.9	0.0	89.9
Total	Lumens	16171.0	0.0	16171.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	295.3	1.8
10°-20°	635.5	3.9
20°-30°	920.9	5.7
30°-40°	1409.7	8.7
40°-50°	2411.1	14.9
50°-60°	3771.7	23.3
60°-70°	4343.0	26.9
70°-80°	2173.3	13.4
80°-90°	210.5	1.3
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°	16171.0	100.0
0°-180°	16171.0	100.0

Coefficient of Utilization



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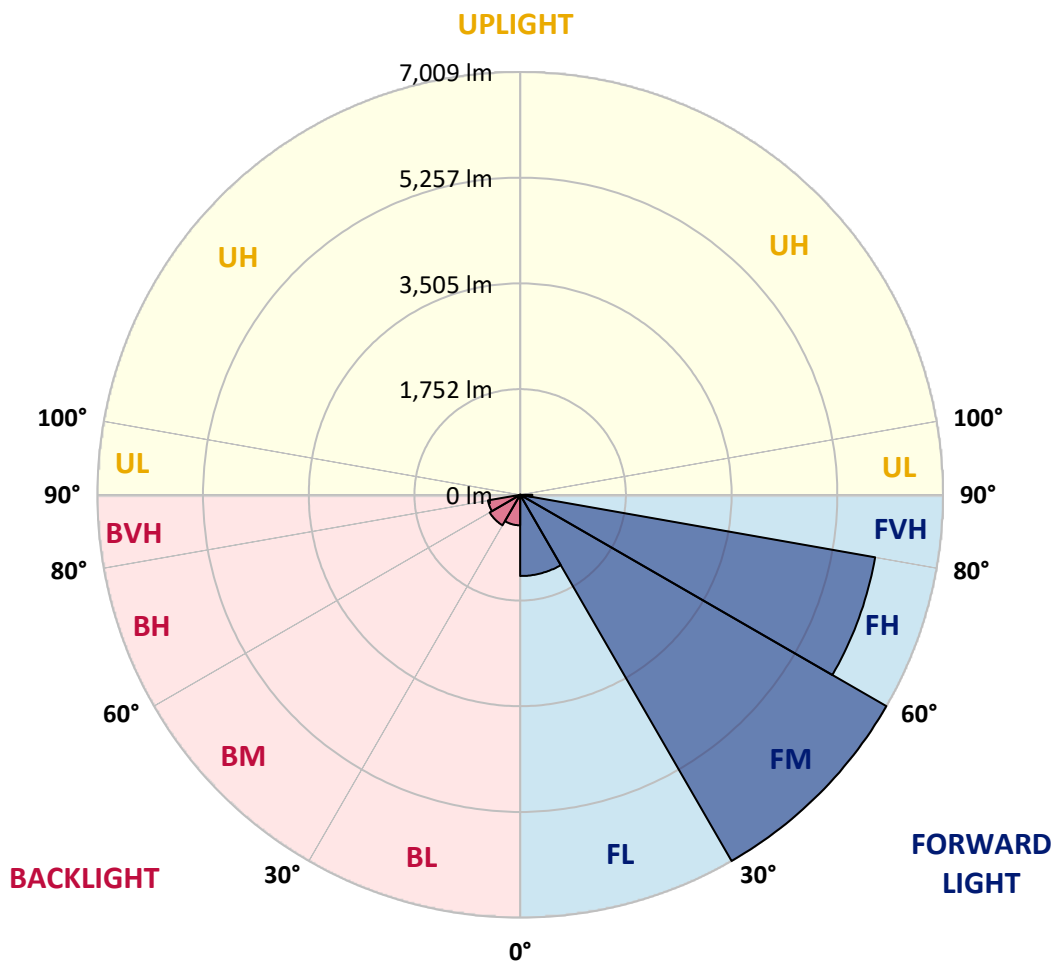
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1346.1	8.3			
FM (30°-60°)	7009.3	43.3			
FH (60°-80°)	5975.1	36.9			G3/7500
FVH (80°-90°)	202.5	1.3			G2/225
BL (0°-30°)	505.5	3.1	B2/1000		
BM (30°-60°)	583.3	3.6	B1/1000		
BH (60°-80°)	541.2	3.3	B2/1000		G2/1000
BVH (80°-90°)	8.0	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	3602.7	3602.7	3602.7	3602.7	3602.7	3602.7	3602.7	3602.7	3602.7	3602.7	3602.7
2.5°	3789.4	3791.9	3790.6	3794.4	3791.9	3772.9	3752.5	3709.4	3713.2	3657.3	3595.1
5°	3522.8	3544.4	3565.9	3587.5	3639.6	3685.3	3739.8	3752.5	3752.5	3704.3	3612.9
7.5°	3251.1	3252.4	3276.5	3305.7	3375.5	3459.3	3586.2	3700.5	3703.0	3715.7	3615.4
10°	3046.7	3053.1	3069.6	3101.3	3171.1	3253.6	3395.8	3574.8	3588.8	3682.7	3590.1
12.5°	2888.0	2895.7	2913.4	2950.2	3013.7	3098.8	3248.6	3452.9	3472.0	3651.0	3582.4
15°	2766.2	2776.3	2790.3	2827.1	2895.7	2985.8	3149.5	3371.7	3394.6	3638.3	3606.6
17.5°	2715.4	2715.4	2714.1	2739.5	2808.1	2899.5	3070.8	3328.5	3357.7	3648.4	3647.2
20°	2737.0	2733.2	2706.5	2700.2	2742.0	2833.4	3008.6	3300.6	3333.6	3667.5	3696.7
22.5°	2851.2	2843.6	2783.9	2734.4	2721.7	2782.7	2966.7	3281.6	3320.9	3706.8	3762.7
25°	3093.7	3070.8	2988.3	2876.6	2776.3	2770.0	2937.5	3271.4	3313.3	3752.5	3835.1
27.5°	3408.5	3402.2	3270.1	3120.3	2927.4	2811.9	2928.7	3263.8	3305.7	3785.5	3893.5
30°	3799.5	3802.1	3649.7	3454.2	3162.2	2929.9	2956.6	3260.0	3303.2	3788.1	3918.8
32.5°	4203.2	4205.7	4078.8	3869.3	3483.4	3133.0	3035.3	3277.8	3317.1	3777.9	3917.6
35°	4591.7	4595.5	4519.3	4350.5	3912.5	3414.9	3183.8	3338.7	3366.6	3784.3	3915.0
37.5°	5082.9	5098.2	5004.2	4846.8	4450.7	3828.7	3426.3	3461.8	3484.7	3836.3	3934.1
40°	5920.8	5900.5	5631.4	5364.8	5034.7	4332.7	3776.7	3673.8	3681.5	3970.9	4006.4
42.5°	6897.0	6871.6	6410.8	5951.3	5635.2	4940.8	4224.8	3998.8	3997.6	4196.9	4163.9
45°	7737.4	7722.2	7237.2	6624.1	6300.4	5612.3	4777.0	4467.3	4452.0	4587.9	4450.7
47.5°	8334.0	8321.4	7954.5	7340.1	7069.7	6351.1	5466.3	5105.8	5074.1	5099.4	4916.6
50°	8392.4	8378.5	8250.3	7855.5	7968.4	7435.3	6318.1	5942.4	5901.7	5862.4	5621.2
52.5°	7846.6	7845.3	7912.6	7887.2	8598.1	8830.4	7362.9	6977.0	6928.7	6828.5	6588.5
55°	6730.7	6724.4	6979.5	7350.2	8584.1	10270.0	8956.1	8208.4	8144.9	7944.3	7629.5
57.5°	4917.9	4884.9	5418.1	6203.9	7981.1	10899.6	11486.1	9738.1	9632.7	8996.7	8511.8
60°	2715.4	2728.1	3413.6	4344.1	6553.0	10775.2	13814.3	11521.7	11244.9	9904.4	9415.6
62.5°	1522.1	1553.8	2064.2	2823.3	4177.8	9766.0	15063.5	14591.2	13924.8	10963.1	10558.2
65°	1151.4	1170.4	1426.9	2178.4	2634.1	6824.7	15262.8	18883.3	18308.2	12567.7	12377.3
67.5°	1084.1	1099.4	1225.0	1806.5	2399.3	3539.3	13762.3	21422.2	21494.6	14756.3	13786.4
68°	1091.7	1110.8	1236.5	1737.9	2395.5	3166.0	13122.5	21434.9	21588.5	15109.2	13738.2
70°	1002.9	1008.0	1307.6	1704.9	2321.9	2494.5	9493.1	19966.2	20241.6	15529.4	12471.2
72.5°	383.4	384.6	586.5	1476.4	2432.3	2508.5	4782.1	15780.7	15794.7	13514.7	9722.8
75°	199.3	167.6	184.1	462.1	2323.1	2445.0	2399.3	10775.2	10707.9	9140.2	5957.6
77.5°	137.1	116.8	123.1	160.0	966.1	2443.7	1732.8	6196.3	6182.3	3888.4	1699.8
80°	77.4	67.3	73.6	134.6	338.9	2293.9	1614.8	2663.3	2509.7	683.0	275.5
82.5°	39.4	33.0	39.4	113.0	210.7	1443.4	1570.3	1044.8	930.5	162.5	179.0
85°	10.2	10.2	19.0	78.7	130.8	473.5	1407.8	754.1	677.9	71.1	126.9
87.5°	2.5	1.3	7.6	29.2	47.0	102.8	780.7	420.2	361.8	36.8	73.6
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°	3602.7	3602.7	3602.7	3602.7	3602.7	3602.7	3602.7	3602.7	3602.7	3602.7	3602.7
2.5°	3569.7	3534.2	3464.4	3385.7	3329.8	3268.9	3233.3	3190.2	3157.2	3128.0	3149.5
5°	3557.0	3488.5	3333.6	3159.7	3013.7	2874.1	2770.0	2671.0	2596.1	2549.1	2568.1
7.5°	3524.0	3422.5	3171.1	2899.5	2660.8	2436.1	2253.3	2089.5	1962.6	1894.0	1915.6
10°	3468.2	3324.7	2987.1	2610.0	2276.2	1958.8	1687.1	1443.4	1259.3	1173.0	1193.3
12.5°	3427.6	3238.4	2796.6	2330.7	1891.5	1440.8	1080.3	801.0	657.6	571.3	578.9
15°	3409.8	3171.1	2618.9	2036.2	1471.3	925.4	584.0	422.7	373.2	355.5	356.7
17.5°	3412.3	3117.8	2450.1	1730.3	1047.3	531.9	358.0	322.4	314.8	311.0	311.0
20°	3418.7	3064.5	2274.9	1411.6	670.3	342.8	298.3	286.9	283.1	278.0	279.3
22.5°	3437.7	3023.9	2098.4	1091.7	412.6	279.3	264.0	253.9	247.5	239.9	241.2
25°	3466.9	2993.4	1924.5	785.8	290.7	243.7	229.8	215.8	204.4	195.5	196.8
27.5°	3484.7	2950.2	1739.2	535.7	241.2	213.3	194.2	175.2	162.5	154.9	153.6
30°	3472.0	2880.4	1528.4	351.6	213.3	184.1	161.2	139.6	126.9	120.6	120.6
32.5°	3437.7	2790.3	1296.1	256.4	189.2	158.7	130.8	111.7	102.8	99.0	100.3
35°	3398.4	2696.3	1048.6	217.1	170.1	134.6	106.6	91.4	87.6	86.3	86.3
37.5°	3376.8	2615.1	811.2	196.8	152.3	111.7	87.6	78.7	74.9	74.9	74.9
40°	3400.9	2552.9	600.5	181.5	134.6	92.7	73.6	67.3	66.0	66.0	66.0
42.5°	3503.7	2531.3	439.2	168.8	116.8	77.4	63.5	58.4	57.1	58.4	58.4
45°	3704.3	2578.3	332.6	156.1	100.3	63.5	54.6	50.8	50.8	52.0	52.0
47.5°	4044.5	2698.9	272.9	143.4	83.8	53.3	47.0	44.4	44.4	45.7	45.7
50°	4572.6	2922.3	245.0	129.5	69.8	45.7	39.4	38.1	38.1	39.4	40.6
52.5°	5374.9	3347.6	231.0	115.5	57.1	38.1	33.0	31.7	33.0	34.3	34.3
55°	6267.4	3892.2	214.5	101.6	48.2	31.7	26.7	26.7	27.9	30.5	30.5
57.5°	7098.9	4417.7	199.3	83.8	41.9	25.4	21.6	21.6	24.1	26.7	26.7
60°	7977.3	4933.1	179.0	67.3	35.5	20.3	17.8	17.8	21.6	24.1	25.4
62.5°	9062.7	5532.3	152.3	53.3	27.9	15.2	12.7	16.5	20.3	24.1	24.1
65°	10631.8	6277.5	119.3	41.9	21.6	11.4	10.2	15.2	19.0	22.9	24.1
67.5°	11201.8	6182.3	90.1	34.3	16.5	8.9	8.9	14.0	19.0	22.9	22.9
68°	10993.6	5974.1	86.3	33.0	15.2	8.9	8.9	14.0	19.0	22.9	22.9
70°	9579.4	4883.6	71.1	25.4	12.7	7.6	7.6	12.7	19.0	21.6	22.9
72.5°	7172.5	3244.8	60.9	16.5	11.4	7.6	6.3	12.7	17.8	21.6	21.6
75°	4114.3	1346.9	52.0	12.7	10.2	6.3	6.3	11.4	17.8	21.6	21.6
77.5°	1162.8	314.8	41.9	10.2	8.9	6.3	5.1	11.4	16.5	20.3	20.3
80°	213.3	93.9	33.0	8.9	7.6	6.3	5.1	11.4	16.5	20.3	20.3
82.5°	140.9	44.4	24.1	8.9	7.6	6.3	5.1	10.2	15.2	19.0	19.0
85°	105.4	31.7	15.2	8.9	7.6	6.3	5.1	10.2	15.2	19.0	19.0
87.5°	58.4	14.0	11.4	10.2	8.9	6.3	5.1	8.9	14.0	17.8	17.8
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)