

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: P197033

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197033
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-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 1050mA 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: 20015 lumens
Efficiency: N/A
Efficacy: 71.7 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

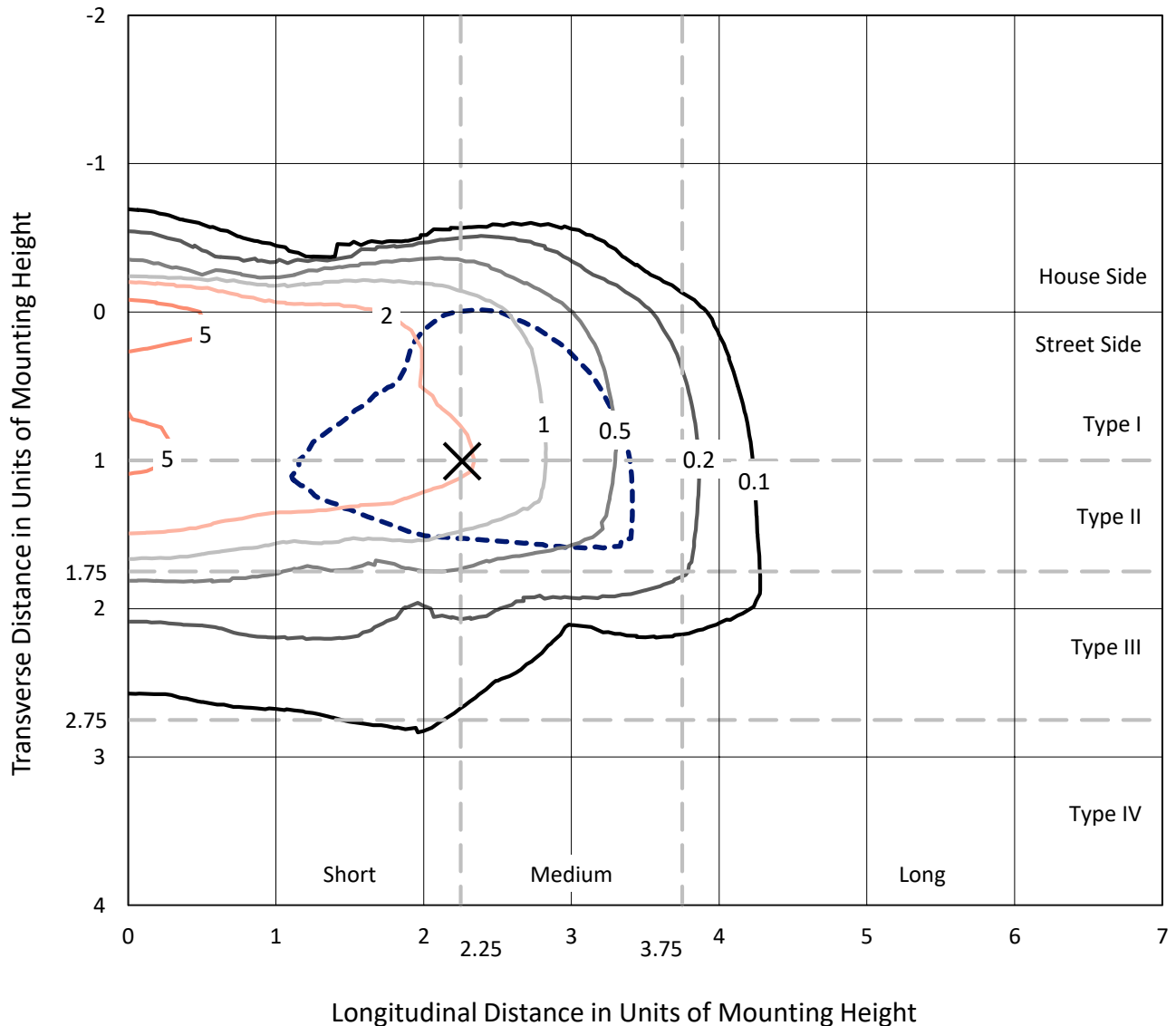
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

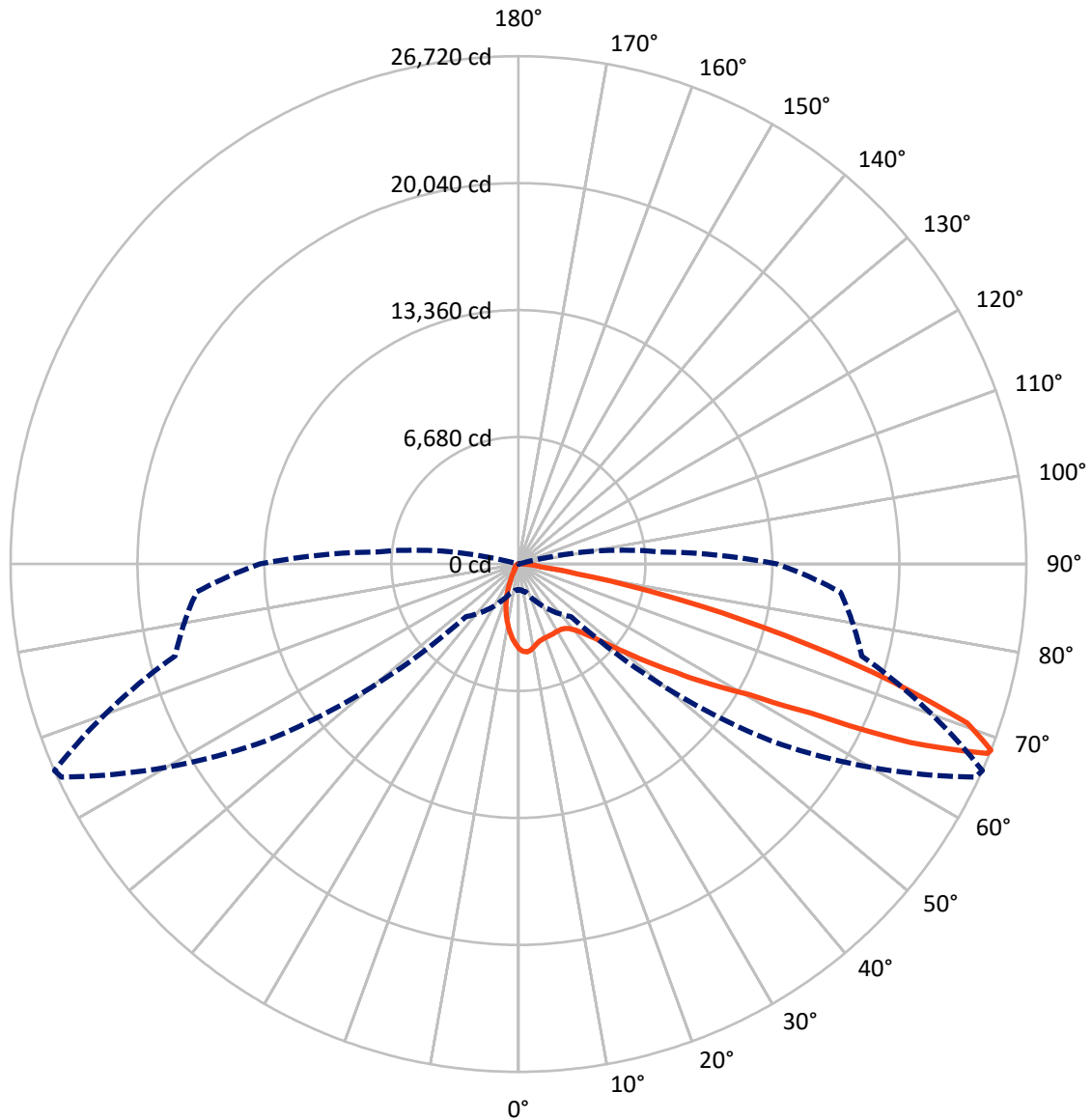
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.1 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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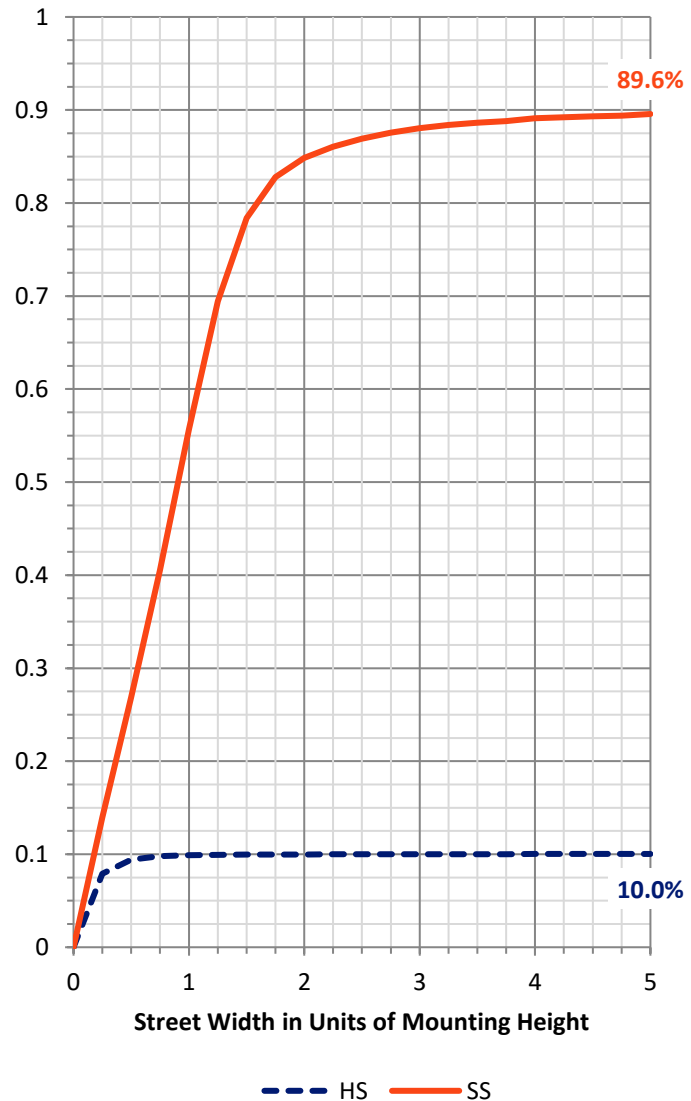
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2027.3	0.0	2027.3
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	17987.7	0.0	17987.7
	% Fixture	89.9	0.0	89.9
Total	Lumens	20015.0	0.0	20015.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	365.6	1.8
10°-20°	786.5	3.9
20°-30°	1139.8	5.7
30°-40°	1744.8	8.7
40°-50°	2984.3	14.9
50°-60°	4668.3	23.3
60°-70°	5375.4	26.9
70°-80°	2689.9	13.4
80°-90°	260.5	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°	20015.0	100.0
0°-180°	20015.0	100.0

Coefficient of Utilization



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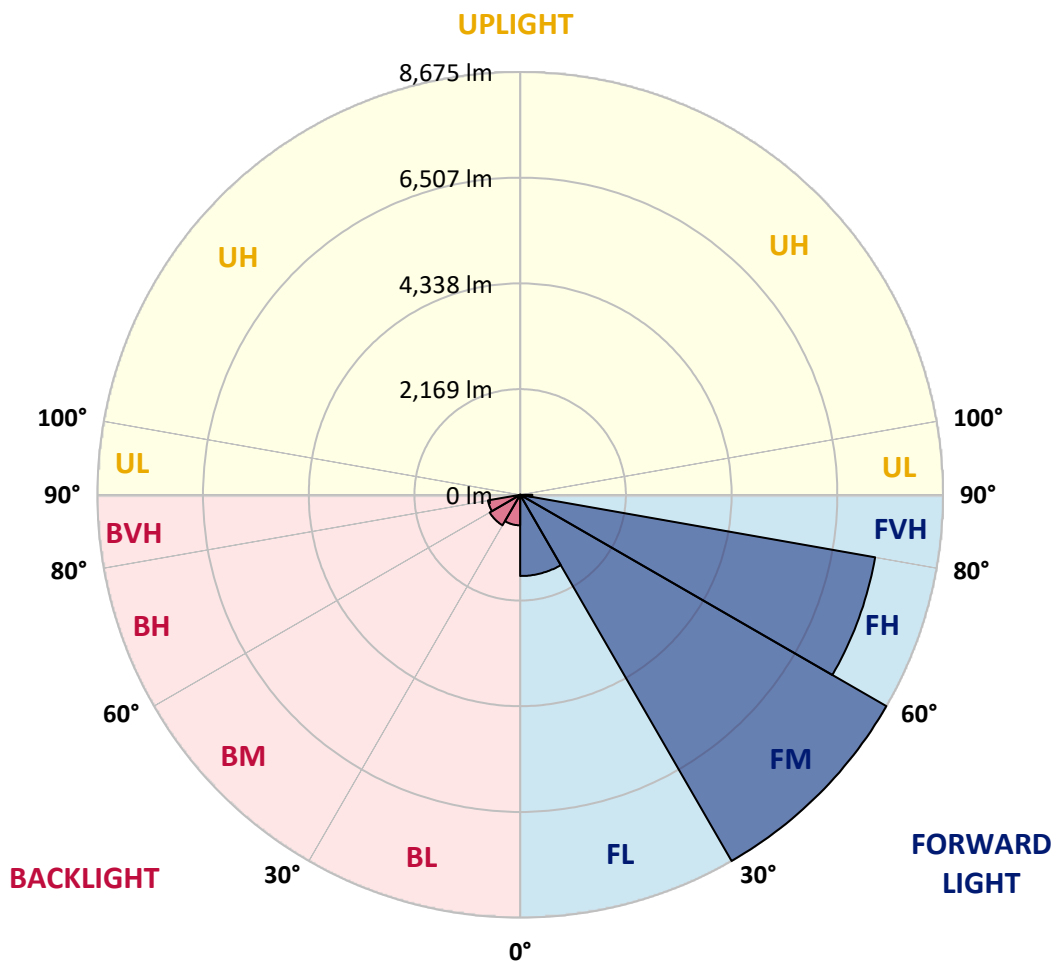
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1666.1	8.3			
FM (30°-60°)	8675.4	43.3			
FH (60°-80°)	7395.5	36.9			G3/7500
FVH (80°-90°)	250.6	1.3			G3/500
BL (0°-30°)	625.7	3.1	B2/1000		
BM (30°-60°)	721.9	3.6	B1/1000		
BH (60°-80°)	669.8	3.3	B2/1000		G2/1000
BVH (80°-90°)	9.9	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°	4459.2	4459.2	4459.2	4459.2	4459.2	4459.2	4459.2	4459.2	4459.2	4459.2	4459.2
2.5°	4690.1	4693.3	4691.7	4696.4	4693.3	4669.7	4644.6	4591.1	4595.8	4526.7	4449.7
5°	4360.2	4386.9	4413.6	4440.3	4504.7	4561.3	4628.8	4644.6	4644.6	4584.9	4471.7
7.5°	4023.9	4025.5	4055.3	4091.5	4177.9	4281.6	4438.7	4580.1	4583.3	4599.0	4474.9
10°	3771.0	3778.8	3799.2	3838.5	3924.9	4027.1	4203.0	4424.6	4441.9	4558.1	4443.4
12.5°	3574.5	3584.0	3606.0	3651.5	3730.1	3835.4	4020.8	4273.7	4297.3	4518.9	4434.0
15°	3423.7	3436.3	3453.6	3499.1	3584.0	3695.5	3898.2	4173.2	4201.5	4503.1	4463.9
17.5°	3360.9	3360.9	3359.3	3390.7	3475.6	3588.7	3800.8	4119.8	4155.9	4515.7	4514.1
20°	3387.6	3382.9	3349.9	3342.0	3393.9	3507.0	3723.8	4085.2	4126.1	4539.3	4575.4
22.5°	3529.0	3519.6	3445.7	3384.4	3368.7	3444.1	3672.0	4061.6	4110.3	4588.0	4657.1
25°	3829.1	3800.8	3698.7	3560.4	3436.3	3428.4	3635.8	4049.1	4100.9	4644.6	4746.7
27.5°	4218.8	4210.9	4047.5	3862.1	3623.3	3480.3	3624.8	4039.6	4091.5	4685.4	4819.0
30°	4702.7	4705.8	4517.3	4275.3	3913.9	3626.4	3659.4	4034.9	4088.3	4688.6	4850.4
32.5°	5202.3	5205.5	5048.4	4789.1	4311.5	3877.8	3756.8	4056.9	4105.6	4676.0	4848.8
35°	5683.1	5687.9	5593.6	5384.6	4842.5	4226.6	3940.6	4132.3	4166.9	4683.8	4845.7
37.5°	6291.2	6310.1	6193.8	5999.0	5508.7	4738.8	4240.8	4284.7	4313.0	4748.3	4869.2
40°	7328.2	7303.1	6970.0	6640.0	6231.5	5362.6	4674.4	4547.1	4556.6	4914.8	4958.8
42.5°	8536.5	8505.1	7934.7	7365.9	6974.7	6115.2	5229.1	4949.4	4947.8	5194.5	5153.6
45°	9576.7	9557.8	8957.6	8198.7	7798.0	6946.4	5912.5	5529.2	5510.3	5678.4	5508.7
47.5°	10315.1	10299.4	9845.3	9084.9	8750.2	7860.9	6765.7	6319.5	6280.2	6311.6	6085.4
50°	10387.4	10370.1	10211.4	9722.8	9862.6	9202.7	7820.0	7354.9	7304.7	7255.9	6957.4
52.5°	9711.8	9710.2	9793.5	9762.1	10641.9	10929.5	9113.1	8635.5	8575.8	8451.7	8154.7
55°	8330.7	8322.8	8638.6	9097.4	10624.7	12711.3	11085.0	10159.6	10081.0	9832.8	9443.1
57.5°	6086.9	6046.1	6706.0	7678.6	9878.3	13490.6	14216.5	12052.9	11922.5	11135.3	10535.1
60°	3360.9	3376.6	4225.0	5376.8	8110.7	13336.6	17098.1	14260.5	13918.0	12258.7	11653.8
62.5°	1883.9	1923.2	2554.8	3494.4	5170.9	12087.5	18644.2	18059.7	17234.8	13569.1	13067.9
65°	1425.1	1448.7	1766.1	2696.2	3260.3	8446.9	18890.9	23372.1	22660.3	15555.2	15319.5
67.5°	1341.8	1360.7	1516.2	2235.9	2969.6	4380.6	17033.7	26514.5	26604.1	18264.0	17063.6
68°	1351.3	1374.8	1530.4	2151.0	2964.9	3918.6	16241.8	26530.2	26720.3	18700.8	17003.9
70°	1241.3	1247.6	1618.4	2110.2	2873.8	3087.5	11749.7	24712.3	25053.3	19220.9	15435.8
72.5°	474.5	476.1	725.9	1827.3	3010.5	3104.8	5918.8	19532.0	19549.3	16727.3	12034.1
75°	246.7	207.4	227.8	571.9	2875.4	3026.2	2969.6	13336.6	13253.3	11312.9	7373.8
77.5°	169.7	144.6	152.4	198.0	1195.7	3024.6	2144.7	7669.2	7651.9	4812.7	2103.9
80°	95.8	83.3	91.1	166.6	419.5	2839.2	1998.6	3296.4	3106.3	845.3	341.0
82.5°	48.7	40.9	48.7	139.8	260.8	1786.5	1943.6	1293.1	1151.7	201.1	221.5
85°	12.6	12.6	23.6	97.4	161.8	586.1	1742.5	933.3	839.0	88.0	157.1
87.5°	3.1	1.6	9.4	36.1	58.1	127.3	966.3	520.1	447.8	45.6	91.1
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°	4459.2	4459.2	4459.2	4459.2	4459.2	4459.2	4459.2	4459.2	4459.2	4459.2	4459.2
2.5°	4418.3	4374.3	4287.9	4190.5	4121.3	4045.9	4001.9	3948.5	3907.7	3871.5	3898.2
5°	4402.6	4317.7	4126.1	3910.8	3730.1	3557.3	3428.4	3305.9	3213.2	3155.0	3178.6
7.5°	4361.7	4236.0	3924.9	3588.7	3293.3	3015.2	2788.9	2586.2	2429.1	2344.3	2371.0
10°	4292.6	4115.1	3697.1	3230.5	2817.2	2424.4	2088.2	1786.5	1558.7	1451.8	1477.0
12.5°	4242.3	4008.2	3461.4	2884.8	2341.1	1783.3	1337.1	991.4	813.9	707.1	716.5
15°	4220.3	3924.9	3241.4	2520.3	1821.1	1145.4	722.8	523.2	461.9	439.9	441.5
17.5°	4223.5	3858.9	3032.5	2141.6	1296.3	658.3	443.1	399.1	389.7	385.0	385.0
20°	4231.3	3793.0	2815.6	1747.2	829.6	424.2	369.2	355.1	350.4	344.1	345.7
22.5°	4254.9	3742.7	2597.2	1351.3	510.6	345.7	326.8	314.2	306.4	297.0	298.5
25°	4291.0	3705.0	2382.0	972.6	359.8	301.7	284.4	267.1	253.0	242.0	243.5
27.5°	4313.0	3651.5	2152.6	663.1	298.5	264.0	240.4	216.8	201.1	191.7	190.1
30°	4297.3	3565.1	1891.8	435.2	264.0	227.8	199.5	172.8	157.1	149.3	149.3
32.5°	4254.9	3453.6	1604.2	317.4	234.1	196.4	161.8	138.3	127.3	122.6	124.1
35°	4206.2	3337.3	1297.8	268.7	210.5	166.6	132.0	113.1	108.4	106.8	106.8
37.5°	4179.5	3236.7	1004.0	243.5	188.5	138.3	108.4	97.4	92.7	92.7	92.7
40°	4209.3	3159.7	743.2	224.7	166.6	114.7	91.1	83.3	81.7	81.7	81.7
42.5°	4336.6	3133.0	543.6	209.0	144.6	95.8	78.6	72.3	70.7	72.3	72.3
45°	4584.9	3191.2	411.7	193.3	124.1	78.6	67.6	62.8	62.8	64.4	64.4
47.5°	5005.9	3340.4	337.8	177.5	103.7	66.0	58.1	55.0	55.0	56.6	56.6
50°	5659.6	3617.0	303.2	160.3	86.4	56.6	48.7	47.1	47.1	48.7	50.3
52.5°	6652.6	4143.3	286.0	143.0	70.7	47.1	40.9	39.3	40.9	42.4	42.4
55°	7757.2	4817.4	265.5	125.7	59.7	39.3	33.0	33.0	34.6	37.7	37.7
57.5°	8786.3	5467.9	246.7	103.7	51.9	31.4	26.7	26.7	29.9	33.0	33.0
60°	9873.6	6105.8	221.5	83.3	44.0	25.1	22.0	22.0	26.7	29.9	31.4
62.5°	11217.0	6847.4	188.5	66.0	34.6	18.9	15.7	20.4	25.1	29.9	29.9
65°	13159.1	7769.7	147.7	51.9	26.7	14.1	12.6	18.9	23.6	28.3	29.9
67.5°	13864.5	7651.9	111.6	42.4	20.4	11.0	11.0	17.3	23.6	28.3	28.3
68°	13606.9	7394.2	106.8	40.9	18.9	11.0	11.0	17.3	23.6	28.3	28.3
70°	11856.5	6044.5	88.0	31.4	15.7	9.4	9.4	15.7	23.6	26.7	28.3
72.5°	8877.5	4016.1	75.4	20.4	14.1	9.4	7.9	15.7	22.0	26.7	26.7
75°	5092.4	1667.1	64.4	15.7	12.6	7.9	7.9	14.1	22.0	26.7	26.7
77.5°	1439.2	389.7	51.9	12.6	11.0	7.9	6.3	14.1	20.4	25.1	25.1
80°	264.0	116.3	40.9	11.0	9.4	7.9	6.3	14.1	20.4	25.1	25.1
82.5°	174.4	55.0	29.9	11.0	9.4	7.9	6.3	12.6	18.9	23.6	23.6
85°	130.4	39.3	18.9	11.0	9.4	7.9	6.3	12.6	18.9	23.6	23.6
87.5°	72.3	17.3	14.1	12.6	11.0	7.9	6.3	11.0	17.3	22.0	22.0
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)