

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: P196133

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196133
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
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-SL3-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20240.1 lumens
Efficiency: N/A
Efficacy: 124.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G4

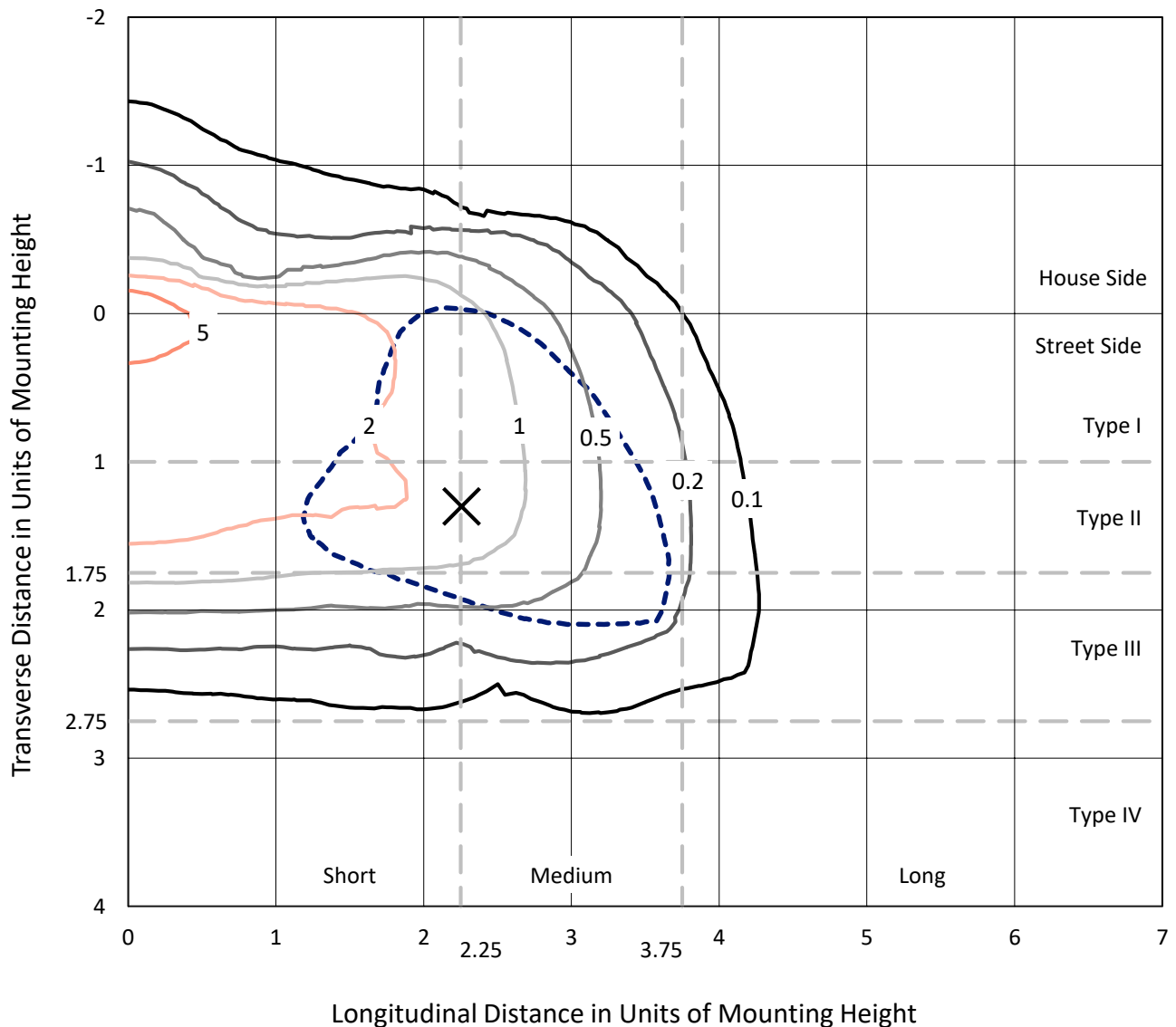
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

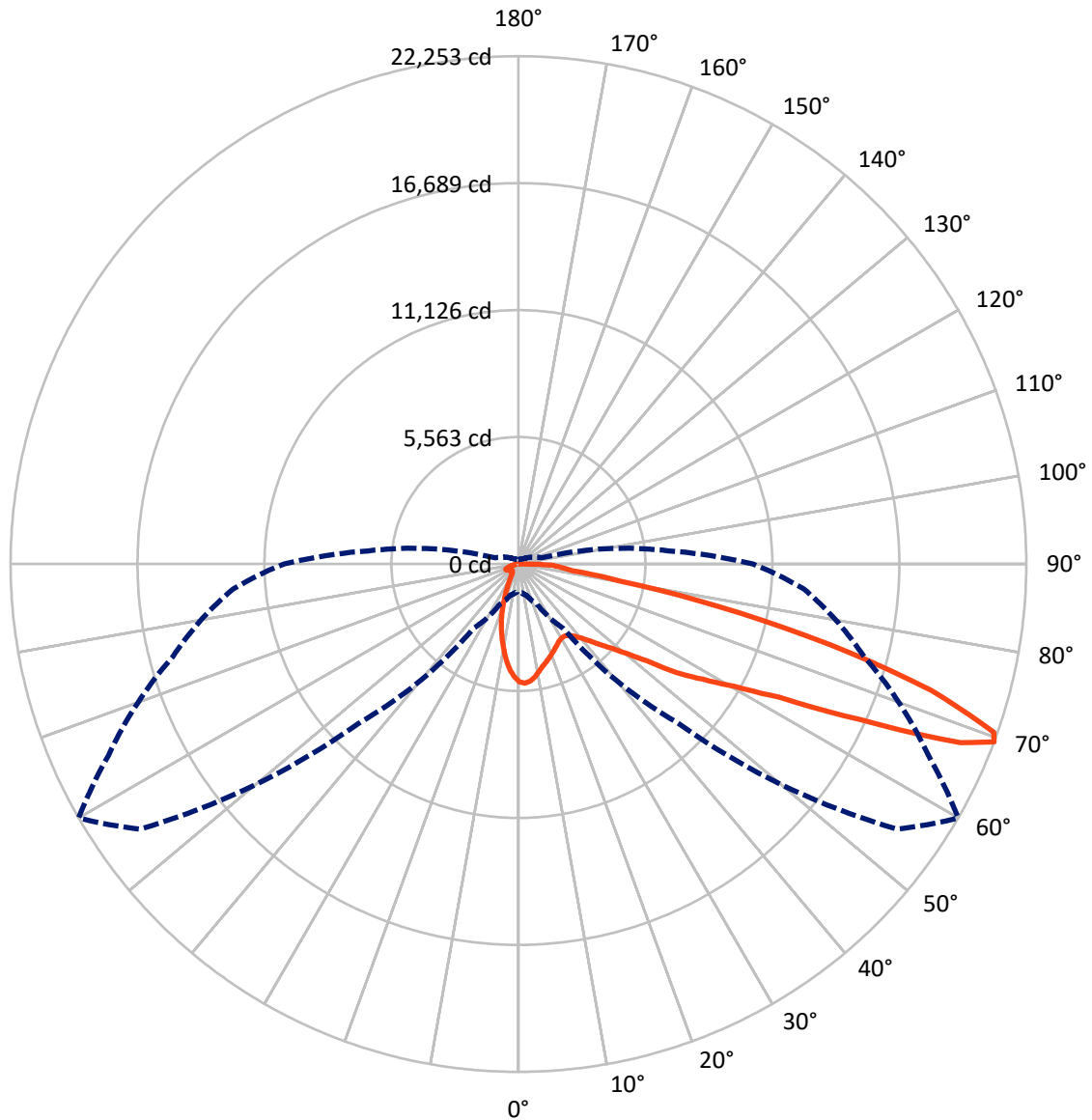
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.3 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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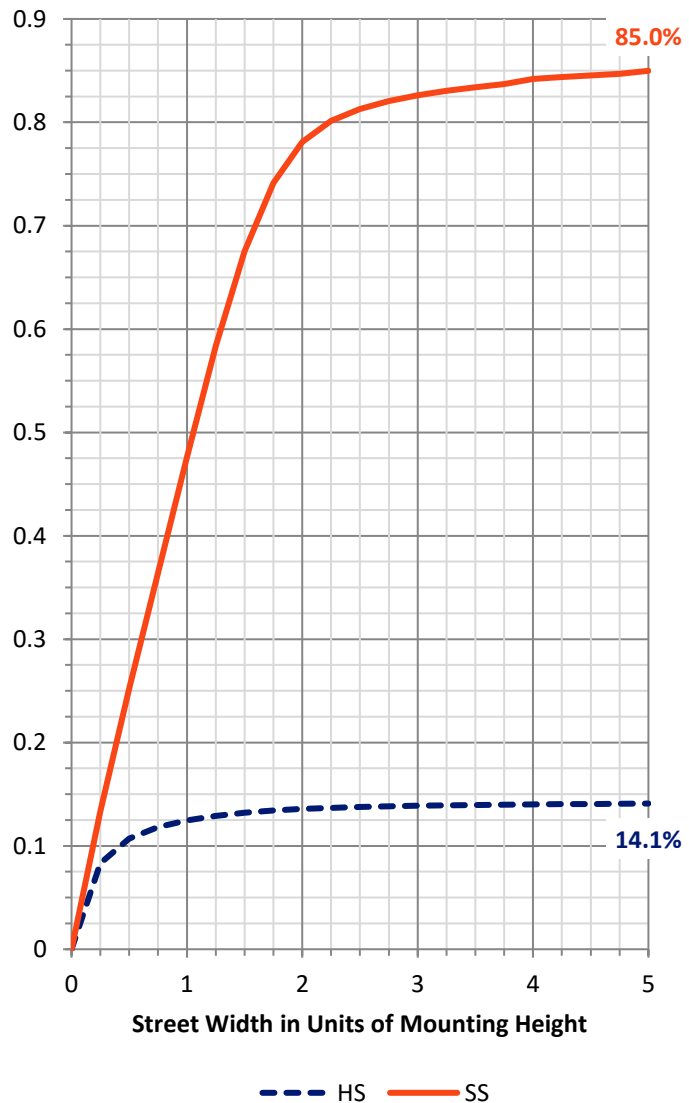
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2886.9	0.0	2886.9
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	17353.2	0.0	17353.2
	% Fixture	85.7	0.0	85.7
Total	Lumens	20240.1	0.0	20240.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	438.1	2.2
10°-20°	938.1	4.6
20°-30°	1196.7	5.9
30°-40°	1646.7	8.1
40°-50°	2667.4	13.2
50°-60°	4186.3	20.7
60°-70°	5581.1	27.6
70°-80°	3104.4	15.3
80°-90°	481.5	2.4
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°	20240.1	100.0
0°-180°	20240.1	100.0

Coefficient of Utilization



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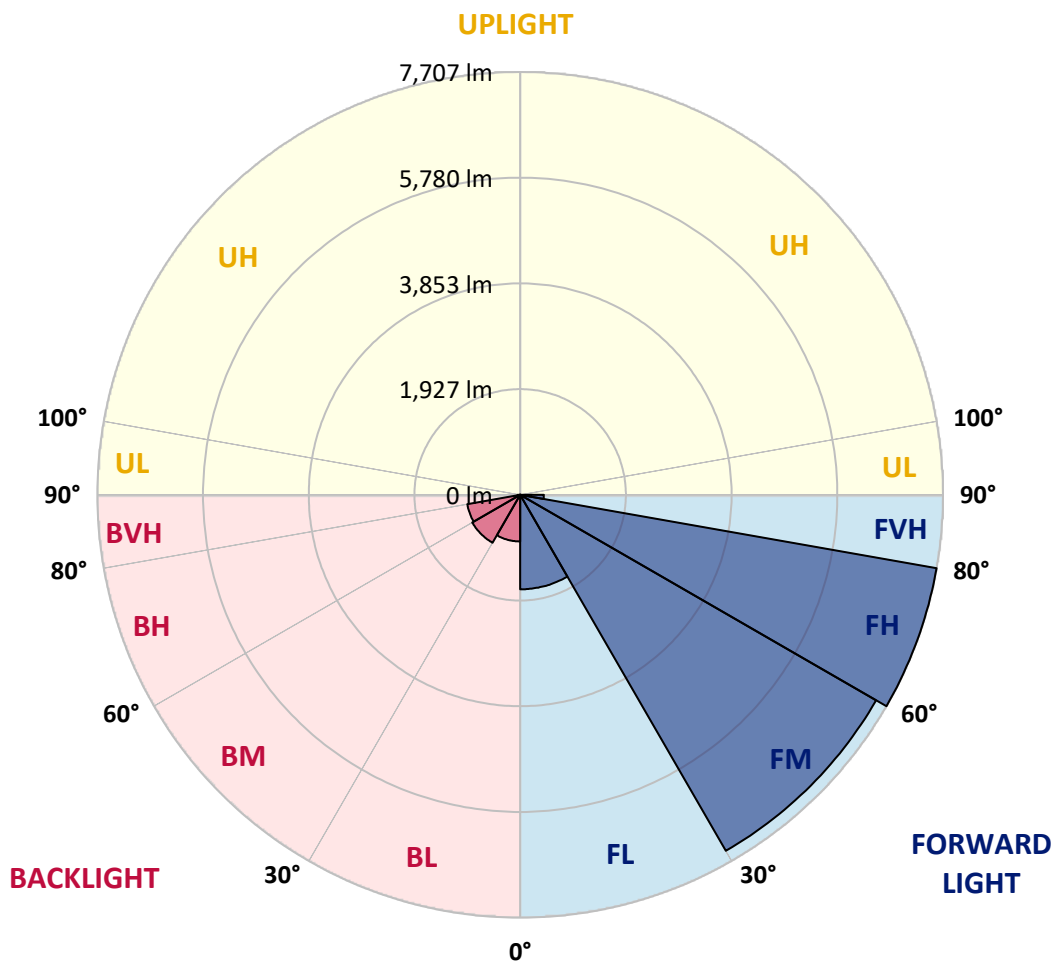
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1722.0	8.5			
FM	(30°-60°)	7491.8	37.0			
FH	(60°-80°)	7706.7	38.1			G4/12000
FVH	(80°-90°)	432.7	2.1			G3/500
BL	(0°-30°)	850.8	4.2	B2/1000		
BM	(30°-60°)	1008.5	5.0	B2/2500		
BH	(60°-80°)	978.8	4.8	B2/1000		G2/1000
BVH	(80°-90°)	48.8	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	5164.4	5164.4	5164.4	5164.4	5164.4	5164.4	5164.4	5164.4	5164.4	5164.4	5164.4
2.5°	5302.0	5316.2	5316.2	5304.5	5298.0	5260.4	5238.3	5222.8	5195.5	5144.8	5099.4
5°	5112.4	5139.7	5151.4	5156.5	5190.2	5178.6	5179.9	5169.5	5146.2	5091.6	5017.7
7.5°	4764.6	4769.8	4790.6	4825.6	4907.3	4964.5	5011.1	5020.2	5015.1	4974.8	4871.0
10°	4421.9	4431.0	4455.7	4515.4	4593.3	4675.0	4776.3	4817.8	4848.9	4836.0	4704.9
12.5°	4137.7	4139.0	4166.3	4235.0	4322.0	4424.6	4562.1	4627.0	4701.0	4730.8	4584.1
15°	3863.8	3882.0	3908.0	3991.0	4098.8	4228.6	4386.9	4476.4	4573.8	4659.4	4490.8
17.5°	3656.1	3670.4	3686.0	3754.8	3879.4	4041.7	4237.7	4333.6	4462.2	4593.3	4394.7
20°	3542.0	3547.2	3535.4	3569.2	3674.3	3849.6	4076.7	4192.2	4345.4	4529.6	4296.0
22.5°	3518.6	3518.6	3475.8	3469.2	3516.0	3664.0	3910.5	4052.0	4238.9	4485.5	4207.8
25°	3627.6	3619.8	3539.4	3465.3	3448.5	3523.8	3752.2	3926.1	4148.1	4484.2	4141.6
27.5°	3834.0	3823.6	3723.6	3599.0	3491.3	3458.9	3630.2	3808.0	4076.7	4528.4	4107.9
30°	4091.0	4087.1	3985.8	3830.1	3652.2	3484.9	3582.2	3747.1	4028.7	4610.1	4106.5
32.5°	4372.6	4354.4	4292.1	4136.4	3905.3	3628.9	3610.7	3749.6	4015.7	4729.5	4136.4
35°	4672.4	4659.4	4643.9	4486.9	4227.2	3883.3	3736.6	3839.1	4079.3	4895.6	4220.8
37.5°	5054.0	5039.8	5065.7	4894.4	4610.1	4216.9	3949.5	4018.3	4209.0	5137.1	4377.8
40°	5732.8	5691.3	5618.6	5355.1	5056.7	4625.7	4257.1	4267.4	4431.0	5460.2	4629.6
42.5°	6847.7	6714.0	6354.5	5870.4	5527.7	5100.7	4658.1	4608.8	4737.3	5887.3	4995.6
45°	7965.2	7814.6	7207.2	6432.4	6015.8	5610.8	5153.9	5035.9	5118.9	6384.3	5466.8
47.5°	8686.8	8612.8	7927.6	6994.3	6527.1	6166.3	5721.2	5526.4	5586.1	6947.7	6048.2
50°	8898.3	8834.8	8296.1	7434.4	7010.0	6837.3	6423.3	6165.0	6175.3	7605.6	6745.1
52.5°	8740.0	8714.1	8357.2	7706.9	7453.8	7544.7	7395.4	7035.9	6950.2	8327.3	7500.6
55°	8528.4	8537.5	8400.0	7980.8	7905.5	8204.0	8667.4	8378.0	8014.5	9078.8	8287.0
57.5°	7862.6	7869.2	8229.9	8502.6	8767.3	9128.1	9657.7	9535.6	9112.5	9890.0	9168.3
60°	6331.1	6381.8	7185.1	8394.7	9752.4	10949.1	11078.9	10868.5	10280.7	10824.5	10314.4
62.5°	4523.2	4568.6	5499.2	7287.7	9636.9	13010.1	13703.1	12867.3	11865.4	12222.3	11926.4
65°	2376.4	2368.6	3089.0	5035.9	8117.0	13487.7	17838.3	16415.8	14535.1	14144.4	13483.8
67.5°	1327.8	1370.5	1649.6	2540.0	5290.2	11870.5	20479.5	20898.7	18247.1	15669.5	13416.3
69°	1227.8	1242.1	1429.0	1963.8	3448.5	9793.9	20252.4	22252.5	19812.4	15676.0	12551.9
70°	1192.8	1208.3	1378.3	1809.3	2896.9	8024.8	19425.6	22094.1	20192.6	15328.1	11765.5
72.5°	1069.5	1090.3	1255.1	1626.3	2441.4	4136.4	15647.5	18910.4	18291.3	13396.9	9122.9
75°	912.4	947.5	1196.6	1614.6	2312.9	2629.5	10435.1	14088.7	13613.6	9581.1	5176.0
77.5°	377.7	381.6	523.0	1182.4	2427.1	2516.7	5608.2	8924.3	7900.2	4201.3	1558.8
80°	263.5	258.3	260.9	345.2	1958.5	2533.5	2877.5	4538.7	3527.6	1108.4	729.5
82.5°	222.0	219.3	229.8	216.8	663.2	2874.8	2406.3	2366.1	1661.3	597.0	347.8
85°	146.7	142.8	188.2	197.3	315.4	2283.0	2588.0	1859.9	1238.2	319.3	147.9
87.5°	71.4	72.7	107.7	133.7	167.5	722.9	2479.0	1470.5	956.6	138.9	59.7
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°	5164.4	5164.4	5164.4	5164.4	5164.4	5164.4	5164.4	5164.4	5164.4	5164.4	5164.4
2.5°	5081.3	5042.3	5007.2	4963.2	4929.4	4900.9	4861.9	4860.7	4854.1	4863.2	4865.8
5°	4968.4	4903.4	4804.8	4694.5	4616.6	4514.1	4414.1	4380.4	4342.7	4338.8	4350.5
7.5°	4798.4	4697.1	4528.4	4359.6	4190.9	4018.3	3854.8	3771.7	3691.2	3666.6	3678.2
10°	4608.8	4480.3	4222.0	3946.9	3709.4	3452.4	3203.2	3042.3	2895.6	2833.3	2848.9
12.5°	4460.9	4297.3	3934.0	3577.0	3221.4	2852.8	2524.4	2206.4	1966.3	1858.6	1865.0
15°	4333.6	4124.7	3664.0	3188.9	2743.8	2238.8	1783.3	1414.7	1204.4	1126.6	1124.0
17.5°	4196.1	3943.0	3382.3	2828.2	2250.6	1626.3	1194.1	976.0	892.9	867.0	867.0
20°	4049.5	3756.1	3087.7	2434.8	1731.3	1135.7	898.2	813.8	782.7	774.9	773.6
22.5°	3913.2	3573.1	2791.7	2015.6	1252.5	861.8	764.5	732.0	726.8	733.4	733.4
25°	3805.5	3412.2	2492.0	1574.3	911.1	721.6	680.1	676.2	695.7	719.0	722.9
27.5°	3725.0	3268.1	2196.1	1149.9	716.5	628.2	613.9	630.8	676.2	722.9	732.0
30°	3669.1	3144.8	1841.7	826.7	597.0	550.3	556.8	586.7	655.4	726.8	746.2
32.5°	3644.5	3044.8	1484.8	634.6	510.0	484.2	500.9	539.9	611.3	682.7	706.0
35°	3667.9	2972.2	1155.1	526.9	446.5	427.0	446.5	486.7	533.5	568.5	582.8
37.5°	3752.2	2946.2	869.6	467.3	405.0	385.4	401.1	428.3	449.1	462.1	468.5
40°	3930.1	2973.5	681.4	436.1	381.6	359.6	363.5	376.3	390.7	401.1	402.3
42.5°	4212.9	3063.0	606.1	424.4	367.3	338.8	332.3	341.4	356.9	371.2	373.8
45°	4589.4	3212.3	598.3	428.3	360.8	321.9	308.9	318.0	338.8	362.1	366.0
47.5°	5076.1	3448.5	634.6	449.1	364.7	312.8	293.3	302.4	329.7	360.8	366.0
50°	5652.3	3775.6	702.2	480.2	382.9	312.8	286.8	294.6	323.2	358.2	363.5
52.5°	6331.1	4231.1	772.2	511.4	408.9	324.5	289.4	288.2	314.0	346.6	353.0
55°	7080.0	4797.0	839.7	538.6	423.1	340.0	295.9	280.4	301.2	327.0	332.3
57.5°	7961.3	5571.9	957.9	564.6	430.9	351.7	303.7	272.5	284.3	302.4	306.3
60°	9156.6	6710.1	1187.5	608.8	445.2	356.9	305.0	264.7	263.5	276.4	277.7
62.5°	10715.4	8043.1	1407.0	660.6	473.7	358.2	299.8	259.6	246.6	250.5	250.5
65°	11823.9	8533.7	1343.3	704.7	499.7	356.9	294.6	255.6	233.6	227.1	227.1
67.5°	11193.0	7538.2	1140.9	716.5	502.3	342.7	282.9	246.6	222.0	206.3	206.3
69°	10266.3	6607.5	1047.4	695.7	481.5	325.8	270.0	237.5	214.1	196.0	196.0
70°	9511.0	5902.8	990.3	671.1	456.8	311.5	258.3	228.4	206.3	190.8	189.5
72.5°	7100.8	3939.1	846.2	578.9	375.1	263.5	225.9	203.8	185.6	175.2	175.2
75°	3747.1	1974.1	693.0	472.4	289.4	210.2	185.6	171.3	160.9	159.7	158.4
77.5°	1227.8	892.9	498.4	355.6	212.9	163.6	147.9	138.9	137.6	142.8	142.8
80°	663.2	533.5	320.6	240.1	147.9	122.0	114.3	112.9	116.8	124.6	124.6
82.5°	321.9	263.5	190.8	147.9	101.3	89.5	89.5	90.8	96.1	105.2	105.2
85°	138.9	124.6	110.3	83.1	62.3	55.9	63.6	70.1	74.0	80.5	83.1
87.5°	66.2	58.4	50.6	32.4	27.2	28.5	33.8	41.5	49.3	54.5	55.9
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)