

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: McGRAW-EDISON

Report Number: E434-35

Luminaire Tested: **GSM-XX-400-HPS-XX-3F-SG-XX-X**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: E434-35  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: GSM-XX-400-HPS-XX-3F-SG-XX-X  
Description: MEDIUM ARCHITECTURAL AREA LUMINAIRE-HORIZONTAL LAMP-TYPE 3 DISTRIBUTION  
Light Source: 400 WATT HPS CLEAR E-18  
Ballast/Driver: -

**Summary**

Lumens per Lamp: 50000 (1 lamp)  
Luminaire Lumens: 33834.9 lumens  
Efficiency: 67.7%  
Efficacy: 72.8 lumens/watt  
Luminous Opening: Rectangular (W 1.08' x L: 1.08' x H: 0')  
IES Classification: Type III - Medium - Cutoff  
BUG Rating: B4 - U0 - G4

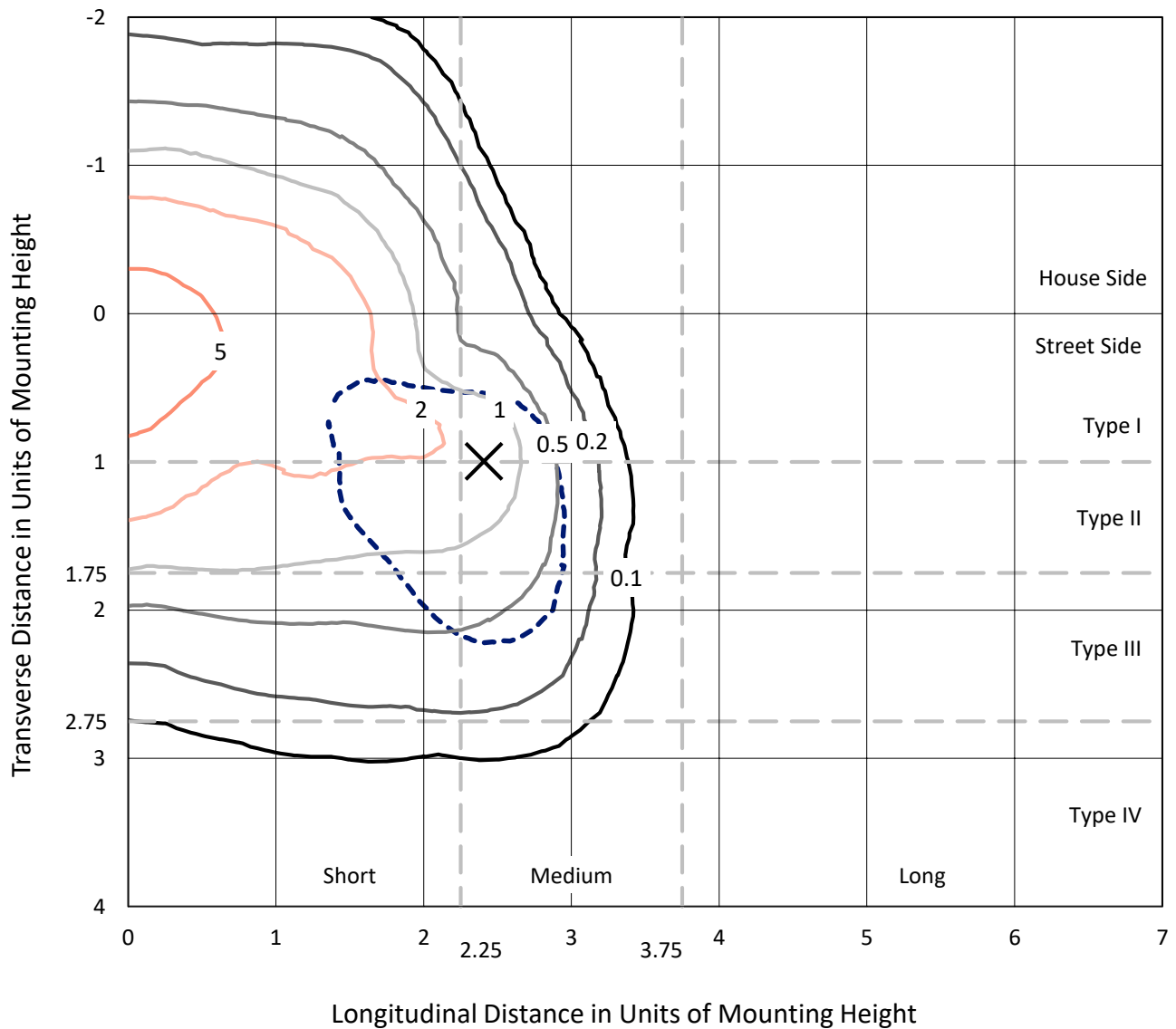
Input Watts (W): 465  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: E434-35  
 CATALOG NUMBER: GSM-XX-400-HPS-XX-3F-SG-XX-X

### Iso-Footcandle Lines of Horizontal Illumination

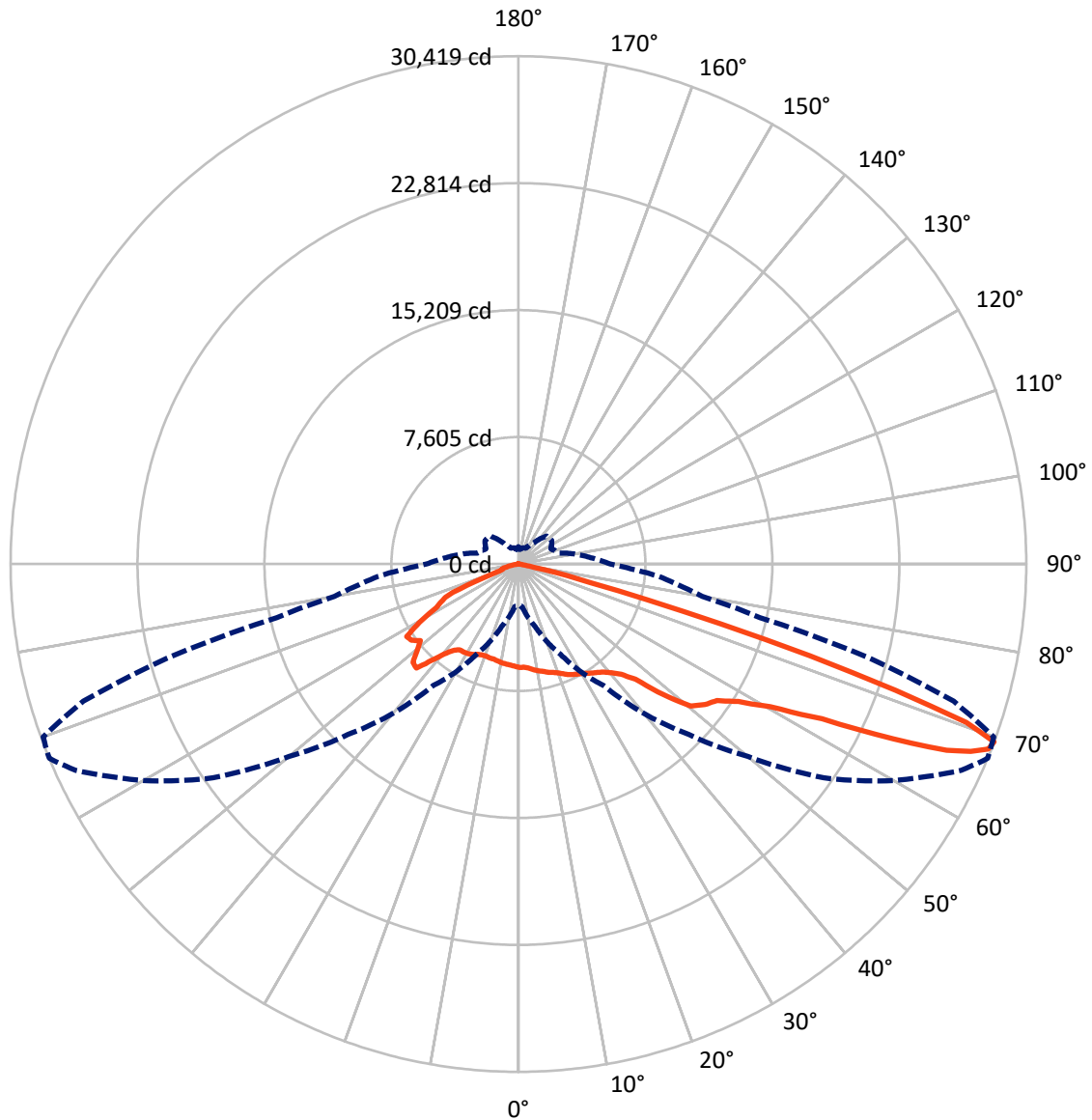
× Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 7.4 fc  
 Type III - Medium - Cutoff

REPORT NUMBER: E434-35  
CATALOG NUMBER: GSM-XX-400-HPS-XX-3F-SG-XX-X

### Luminous Intensity Polar Plot



— Vertical Plane Through 67.5-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical

REPORT NUMBER: E434-35

CATALOG NUMBER: GSM-XX-400-HPS-XX-3F-SG-XX-X

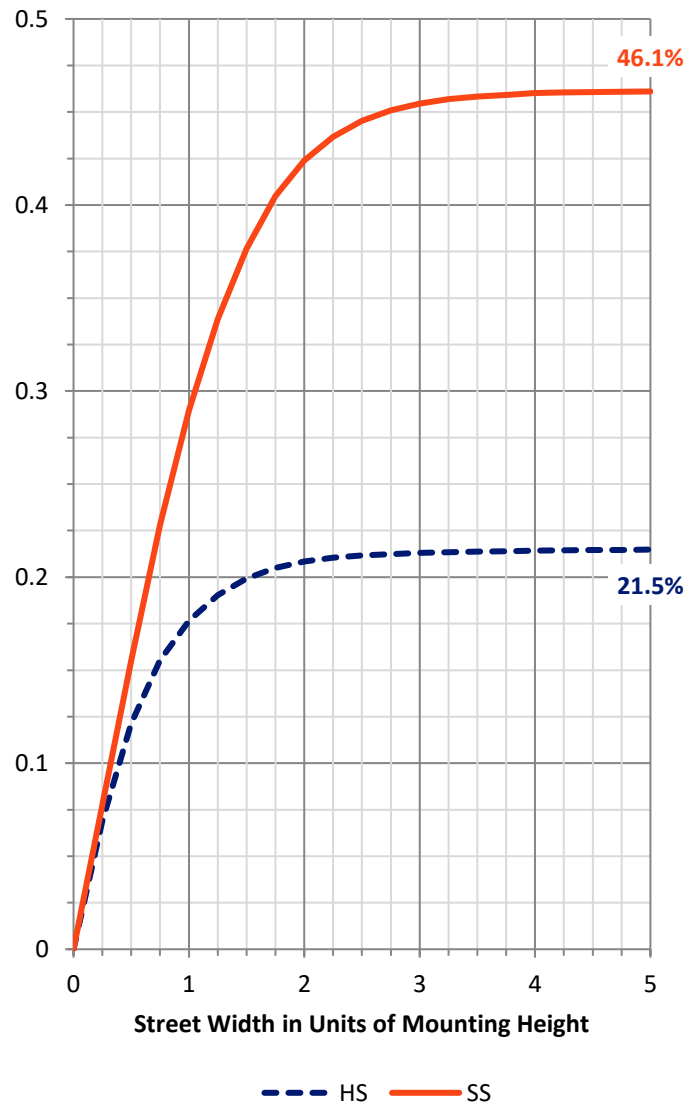
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	10792.9	0.0	10792.9
	% Lamp	21.6	0.0	21.6
<b>Street Side</b>	Lumens	23042.0	0.0	23042.0
	% Lamp	46.1	0.0	46.1
<b>Total</b>	Lumens	33834.9	0.0	33834.9
	% Lamp	67.7	0.0	67.7

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	590.6	1.7	1.2
10°-20°	1793.8	5.3	3.6
20°-30°	3042.9	9.0	6.1
30°-40°	4282.6	12.7	8.6
40°-50°	5796.0	17.1	11.6
50°-60°	7257.8	21.5	14.5
60°-70°	7912.0	23.4	15.8
70°-80°	3111.4	9.2	6.2
80°-90°	47.9	0.1	0.1
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-90°	33834.9	100.0	67.7
0°-180°	33834.9	100.0	67.7



REPORT NUMBER: E434-35

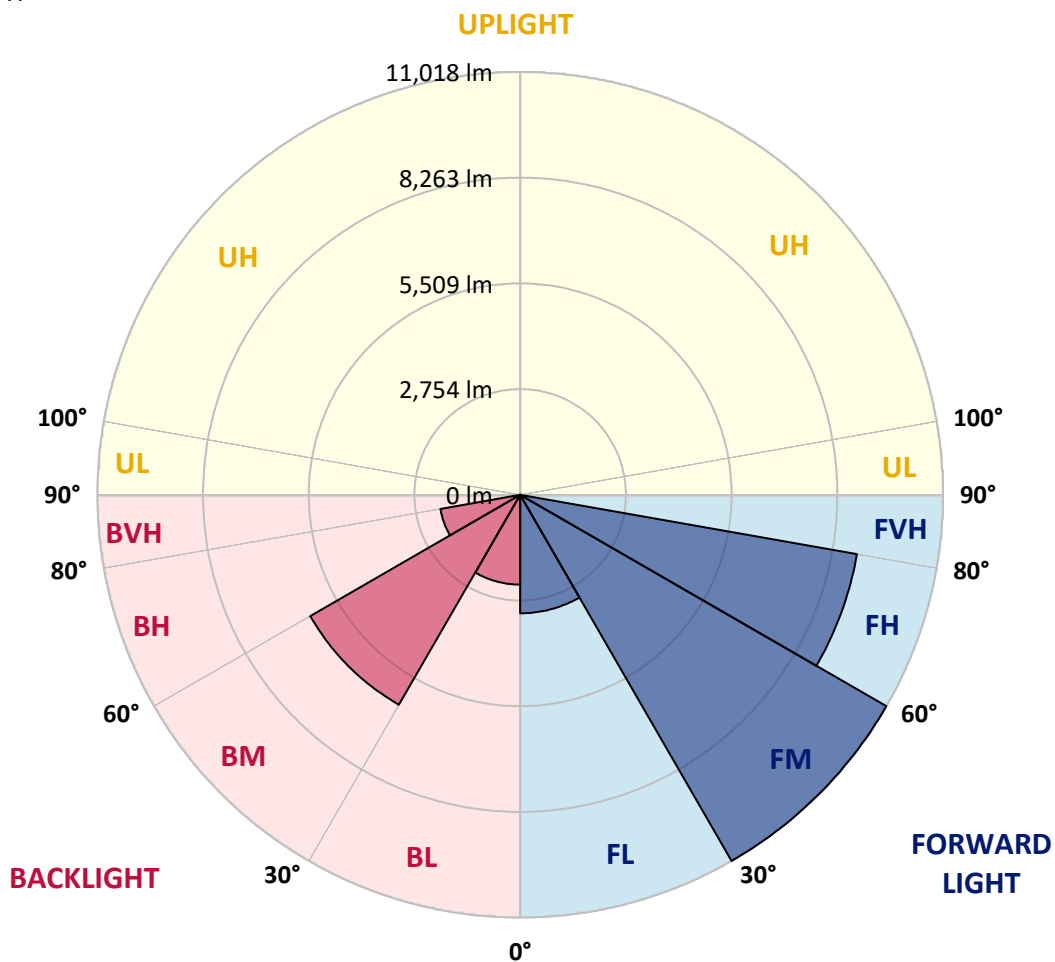
CATALOG NUMBER: GSM-XX-400-HPS-XX-3F-SG-XX-X

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Lamp	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3087.6	6.2			
FM	(30°-60°)	11017.6	22.0			
FH	(60°-80°)	8911.4	17.8			G4/12000
FVH	(80°-90°)	25.4	0.1			G1/100
BL	(0°-30°)	2339.7	4.7	B3/2500		
BM	(30°-60°)	6318.7	12.6	B4/8500		
BH	(60°-80°)	2112.0	4.2	B3/2500		G3/2500
BVH	(80°-90°)	22.4	0.0			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	
Trapped Light		16165.1	32.3			

**BUG Rating: B4-U0-G4**

Type III Medium





REPORT NUMBER: E434-35  
 CATALOG NUMBER: GSM-XX-400-HPS-XX-3F-SG-XX-X

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	50°	55°	60°	62.5°	65°
0°	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3
2.5°	6392.4	6329.6	6310.5	6283.1	6255.8	6228.5	6214.8	6214.8	6201.2	6201.2	6201.2
5°	6501.7	6447.0	6392.4	6337.8	6324.1	6296.8	6310.5	6305.0	6283.1	6269.5	6266.7
7.5°	6692.9	6597.3	6529.0	6488.0	6490.8	6474.4	6488.0	6460.7	6433.4	6406.1	6406.1
10°	6870.5	6774.9	6747.5	6747.5	6753.0	6733.9	6692.9	6638.3	6570.0	6556.3	6523.5
12.5°	7102.7	7007.1	6971.6	7048.0	7007.1	6925.1	6856.8	6815.8	6714.8	6692.9	6651.9
15°	7356.7	7266.6	7266.6	7280.2	7171.0	7061.7	6996.1	6919.6	6843.2	6815.8	6761.2
17.5°	7681.8	7608.1	7608.1	7501.5	7348.5	7201.0	7157.3	7075.4	6993.4	6938.8	6897.8
20°	7949.5	7894.9	7908.6	7744.7	7561.6	7430.5	7362.2	7258.4	7143.7	7075.4	7020.7
22.5°	8113.4	8045.2	8127.1	7935.9	7772.0	7662.7	7553.4	7471.5	7375.9	7307.6	7239.3
25°	8250.0	8195.4	8233.6	8127.1	8031.5	7840.3	7772.0	7676.4	7580.7	7509.7	7430.5
27.5°	8468.6	8370.2	8449.5	8359.3	8181.7	7976.9	7905.8	7796.6	7690.0	7608.1	7545.2
30°	9014.9	8851.0	8689.9	8523.2	8250.0	8045.2	7949.5	7922.2	7785.6	7717.3	7676.4
32.5°	9861.8	9588.6	9001.3	8523.2	8192.7	8017.8	7998.7	8075.2	7935.9	7826.6	7826.6
35°	10380.8	10135.0	9230.8	8359.3	8017.8	7949.5	8113.4	8168.1	8168.1	8154.4	8072.5
37.5°	10135.0	9911.0	9083.2	8127.1	7772.0	7949.5	8143.5	8416.7	8413.9	8400.3	8277.4
40°	9615.9	9370.1	8509.6	7826.6	7635.4	7853.9	8195.4	8523.2	8659.8	8646.1	8616.1
42.5°	9370.1	9083.2	8236.4	7676.4	7621.7	7812.9	8031.5	8427.6	8796.4	8864.7	8946.6
45°	9643.3	9329.1	8427.6	7758.3	7676.4	7731.0	7908.6	8400.3	9028.6	9274.5	9602.3
47.5°	9889.1	9602.3	8741.8	7905.8	7621.7	7731.0	8058.8	8845.6	9984.7	10722.3	11214.0
50°	9998.4	9670.6	8605.2	7643.6	7403.2	7867.6	8807.3	10271.6	11760.4	12648.2	13208.3
52.5°	9479.3	9192.5	8045.2	7307.6	7375.9	8495.9	10066.7	12074.6	13631.7	13904.9	14030.5
55°	8894.7	8659.8	7922.2	7561.6	7512.4	9820.8	11978.9	13700.0	14500.4	14590.5	14587.8
57.5°	8441.3	8012.4	8454.9	8974.0	8291.0	11230.4	13254.7	14423.9	15139.6	15380.0	15530.3
60°	7102.7	6665.6	8088.9	9900.0	10356.3	12689.2	13781.9	14724.4	16022.0	16732.3	17073.8
62.5°	5135.8	4999.2	6788.5	8919.3	11118.4	14123.4	15543.9	17169.4	18098.2	19425.8	19983.1
65°	3769.9	3783.5	5381.6	7758.3	10380.8	14109.7	16582.0	19027.0	21966.4	23575.4	24818.4
66°	3360.1	3414.7	4917.2	7302.1	10025.7	14123.4	16786.9	19750.9	23602.8	25637.9	27113.1
67°	3032.3	3073.3	4567.6	6843.2	9662.4	14178.0	16972.7	20723.4	25610.6	27140.4	28492.7
68°	2715.4	2759.1	4207.0	6406.1	9247.1	14260.0	17346.9	21594.9	26195.2	27481.9	28861.5
69°	2475.0	2562.4	3857.3	5971.7	8878.3	14451.2	17934.3	22324.3	25952.1	27563.9	29257.6
70°	2240.1	2341.2	3401.1	5395.3	8427.6	14738.1	18371.4	22359.8	25556.0	27304.3	28342.4
71°	1991.5	2043.4	3035.0	4862.6	7990.5	14861.0	18404.1	21553.9	24941.3	25856.5	25624.3
72°	1691.0	1729.2	2682.6	4343.6	7498.8	14683.4	17975.2	20420.2	22810.5	22018.3	20319.1
73°	1409.6	1431.5	2302.9	3756.2	6720.2	13959.5	16595.7	18562.6	18671.9	16336.2	14833.7
74°	1128.2	1136.4	1808.5	3114.3	5463.6	12457.0	14560.5	15503.0	13317.5	10380.8	9069.6
75°	874.2	893.3	1491.6	2526.9	4215.2	10271.6	12197.5	10858.9	8203.6	5846.1	4835.3
77.5°	377.0	333.3	551.8	770.4	1595.4	3963.8	3824.5	2595.2	1579.0	1199.3	909.7
80°	84.7	79.2	103.8	114.7	144.8	510.8	418.0	336.0	278.6	256.8	270.4
82.5°	38.2	30.0	27.3	27.3	38.2	54.6	62.8	79.2	71.0	84.7	82.0
85°	10.9	8.2	2.7	0.0	2.7	5.5	5.5	10.9	10.9	13.7	13.7
87.5°	2.7	2.7	0.0	2.7	8.2	5.5	5.5	2.7	2.7	2.7	5.5
90°	0.0	0.0	2.7	10.9	13.7	13.7	13.7	16.4	8.2	13.7	13.7



REPORT NUMBER: E434-35

CATALOG NUMBER: GSM-XX-400-HPS-XX-3F-SG-XX-X

**CANDELA DISTRIBUTION (continued):**

	67.5°	70°	72.5°	75°	77.5°	80°	82.5°	85°	87.5°	90°	95°
0°	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3
2.5°	6190.3	6201.2	6187.5	6187.5	6187.5	6173.9	6152.0	6146.5	6146.5	6146.5	6132.9
5°	6255.8	6242.2	6242.2	6228.5	6228.5	6201.2	6187.5	6171.1	6160.2	6146.5	6132.9
7.5°	6392.4	6365.1	6351.4	6324.1	6305.0	6269.5	6244.9	6217.6	6203.9	6187.5	6160.2
10°	6501.7	6474.4	6447.0	6406.1	6392.4	6337.8	6310.5	6283.1	6255.8	6228.5	6173.9
12.5°	6597.3	6583.6	6542.7	6501.7	6460.7	6419.7	6365.1	6324.1	6283.1	6253.1	6160.2
15°	6733.9	6679.3	6651.9	6611.0	6556.3	6474.4	6433.4	6365.1	6310.5	6255.8	6173.9
17.5°	6829.5	6788.5	6733.9	6665.6	6597.3	6515.3	6447.0	6392.4	6337.8	6283.1	6173.9
20°	6966.1	6911.5	6843.2	6774.9	6720.2	6624.6	6556.3	6474.4	6419.7	6365.1	6234.0
22.5°	7171.0	7089.0	7034.4	6952.4	6870.5	6774.9	6706.6	6611.0	6529.0	6460.7	6337.8
25°	7337.6	7266.6	7181.9	7130.0	7048.0	6952.4	6862.3	6774.9	6692.9	6638.3	6493.5
27.5°	7471.5	7389.5	7307.6	7252.9	7190.1	7075.4	7020.7	6925.1	6829.5	6758.5	6624.6
30°	7608.1	7512.4	7444.2	7362.2	7307.6	7266.6	7184.6	7157.3	7075.4	6993.4	6856.8
32.5°	7799.3	7763.8	7725.5	7662.7	7608.1	7493.3	7397.7	7321.2	7220.1	7157.3	6955.2
35°	7990.5	7908.6	7853.9	7777.4	7717.3	7635.4	7594.4	7512.4	7400.4	7321.2	7171.0
37.5°	8209.1	8168.1	8154.4	8102.5	8072.5	8072.5	8017.8	8020.6	7908.6	7881.2	7758.3
40°	8564.2	8553.3	8591.5	8673.5	8741.8	8700.8	8823.7	8755.4	8837.4	8796.4	8564.2
42.5°	9028.6	9096.9	9315.4	9465.7	9711.5	9930.1	9930.1	10189.6	10249.7	10216.9	10107.7
45°	9834.5	10094.0	10517.4	10995.5	11132.1	11569.2	11541.9	11719.4	11582.8	11596.5	11364.3
47.5°	11697.6	12088.2	12271.2	12487.1	12642.8	12579.9	12530.8	12334.1	12088.2	11856.0	11391.6
50°	13372.2	13489.6	13303.9	13167.3	12948.7	12675.6	12443.3	12156.5	11776.8	11377.9	10645.8
52.5°	13986.8	13866.6	13590.7	13303.9	12921.4	12481.6	12156.5	11741.3	11296.0	10817.9	10115.9
55°	14423.9	14260.0	13754.6	13180.9	12793.0	12470.7	12388.7	12457.0	12416.0	12284.9	11216.8
57.5°	15530.3	15352.7	14839.1	14137.1	13727.3	13481.4	13276.5	13489.6	13317.5	13221.9	11976.2
60°	17336.0	17210.3	16486.4	14983.9	13877.5	13249.2	13038.9	13099.0	12659.2	12142.9	11129.4
62.5°	20406.5	20406.5	19068.0	15683.3	12937.8	11487.2	10544.7	10380.8	9834.5	9288.1	8591.5
65°	25856.5	25610.6	23310.4	17661.1	12060.9	8905.7	7772.0	7089.0	6881.4	6720.2	6378.8
66°	27960.0	27003.8	24914.0	19027.0	12429.7	8673.5	7198.3	6651.9	6460.7	6460.7	6550.9
67°	29325.9	28820.5	26799.0	20638.7	13659.0	9807.2	7976.9	7351.3	6925.1	6788.5	6417.0
68°	30241.0	30213.7	28082.9	22045.6	14664.3	10629.4	9301.8	8124.4	7403.2	6802.2	6037.3
69°	30418.6	30295.7	27331.7	21786.1	14817.3	11186.7	9656.9	8427.6	6747.5	5490.9	4343.6
70°	28454.4	27468.2	23589.1	19027.0	13440.5	10094.0	8037.0	6881.4	4944.6	3887.4	2638.9
71°	23815.8	22182.2	18098.2	14587.8	10722.3	7826.6	6269.5	4679.6	3616.9	2581.6	1808.5
72°	18289.4	15462.0	12940.5	10025.7	7512.4	5381.6	4032.1	3264.5	2742.7	2021.5	1510.7
73°	12585.4	10039.4	8646.1	6419.7	4739.7	3586.9	3029.6	2496.9	2051.6	1718.3	1467.0
74°	8004.2	6419.7	5299.7	4138.7	3024.1	2409.4	2234.6	1871.3	1658.2	1521.6	1395.9
75°	4406.4	3808.1	2893.0	2376.7	2196.4	1718.3	1579.0	1450.6	1335.9	1294.9	1259.4
77.5°	934.3	893.3	904.2	953.4	904.2	814.1	756.7	743.0	732.1	751.2	890.6
80°	284.1	314.2	316.9	322.4	303.2	281.4	281.4	240.4	292.3	308.7	368.8
82.5°	76.5	79.2	68.3	68.3	71.0	60.1	62.8	65.6	65.6	62.8	62.8
85°	8.2	13.7	8.2	8.2	8.2	5.5	5.5	2.7	2.7	5.5	10.9
87.5°	5.5	0.0	2.7	8.2	8.2	10.9	10.9	10.9	13.7	13.7	13.7
90°	13.7	13.7	16.4	16.4	19.1	19.1	19.1	19.1	19.1	19.1	19.1





REPORT NUMBER: E434-35  
 CATALOG NUMBER: GSM-XX-400-HPS-XX-3F-SG-XX-X

**CANDELA DISTRIBUTION (continued):**

	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3	6190.3
2.5°	6132.9	6119.2	6124.7	6097.4	6091.9	6078.3	6105.6	6105.6	6091.9
5°	6091.9	6064.6	6050.9	6010.0	5969.0	5955.3	5941.7	5928.0	5955.3
7.5°	6081.0	6023.6	5969.0	5887.0	5835.1	5805.1	5750.4	5777.8	5764.1
10°	6078.3	5971.7	5900.7	5796.9	5723.1	5654.8	5600.2	5572.9	5572.9
12.5°	6037.3	5900.7	5807.8	5723.1	5613.8	5507.3	5463.6	5414.4	5381.6
15°	6010.0	5846.1	5736.8	5627.5	5521.0	5409.0	5299.7	5234.1	5245.1
17.5°	5996.3	5832.4	5695.8	5545.6	5409.0	5299.7	5163.1	5081.1	5081.1
20°	5996.3	5796.9	5633.0	5469.1	5313.4	5174.0	5040.2	4950.0	4944.6
22.5°	6064.6	5805.1	5586.5	5392.6	5201.3	5053.8	4889.9	4794.3	4808.0
25°	6201.2	5857.0	5531.9	5286.0	5094.8	4903.6	4731.5	4644.1	4644.1
27.5°	6351.4	5982.6	5545.6	5217.7	4971.9	4731.5	4589.4	4480.2	4455.6
30°	6504.4	6050.9	5567.4	5149.4	4848.9	4603.1	4384.5	4261.6	4261.6
32.5°	6545.4	6091.9	5627.5	5081.1	4698.7	4439.2	4198.8	4070.4	4070.4
35°	6706.6	6067.3	5531.9	5040.2	4575.8	4267.1	4029.4	3898.3	3851.8
37.5°	7198.3	6228.5	5436.3	4903.6	4441.9	4084.0	3851.8	3687.9	3715.2
40°	8017.8	6611.0	5411.7	4753.3	4261.6	3879.2	3726.2	3510.4	3551.3
42.5°	9288.1	7266.6	5545.6	4603.1	4097.7	3720.7	3701.6	3373.8	3387.4
45°	10449.1	8154.4	5791.4	4477.4	3947.5	3551.3	3728.9	3168.9	3196.2
47.5°	10230.6	8113.4	5791.4	4302.6	3797.2	3346.5	3442.1	2939.4	2923.0
50°	9452.0	7457.8	5368.0	4207.0	3633.3	3250.8	3046.0	2772.8	2729.1
52.5°	8963.0	6938.8	5204.1	4141.4	3496.7	3182.5	2729.1	2617.1	2557.0
55°	9643.3	7266.6	5193.2	4045.8	3297.3	2923.0	2507.8	2387.6	2379.4
57.5°	10044.8	7293.9	5163.1	3920.1	3155.2	2630.7	2297.4	2218.2	2221.0
60°	8646.1	6280.4	4821.6	3838.2	3018.6	2401.3	2005.1	1953.2	1980.6
62.5°	6613.7	5217.7	4589.4	3851.8	2895.7	2130.8	1636.3	1663.7	1688.3
65°	5695.8	4767.0	4603.1	3824.5	2655.3	1783.9	1357.7	1360.4	1467.0
66°	5441.7	4603.1	4507.5	3687.9	2458.6	1606.3	1273.0	1264.8	1382.3
67°	4958.2	4043.1	4111.4	3414.7	2251.0	1456.0	1180.1	1136.4	1259.4
68°	3660.6	3229.0	3196.2	2950.3	1925.9	1283.9	1095.5	1005.3	1191.1
69°	2532.4	2144.5	2442.2	2371.2	1472.4	1051.7	1008.0	868.7	1032.6
70°	1557.1	1259.4	1778.4	1860.4	1079.1	795.0	950.7	759.4	860.5
71°	1204.7	1057.2	1379.6	1434.2	838.7	614.7	945.2	674.8	721.2
72°	1144.6	983.4	1136.4	1229.3	699.3	527.2	939.7	625.6	628.3
73°	1114.6	964.3	901.5	997.1	590.1	475.3	923.3	587.3	554.6
74°	1092.7	937.0	751.2	756.7	483.5	426.2	898.8	560.0	499.9
75°	1084.5	860.5	628.3	579.1	387.9	360.6	819.5	527.2	453.5
77.5°	882.4	483.5	316.9	303.2	226.7	204.9	458.9	445.3	336.0
80°	420.7	158.4	122.9	120.2	101.1	73.8	144.8	218.5	185.8
82.5°	73.8	43.7	43.7	49.2	35.5	27.3	35.5	43.7	38.2
85°	8.2	8.2	13.7	13.7	10.9	5.5	5.5	5.5	8.2
87.5°	10.9	10.9	13.7	10.9	2.7	2.7	2.7	0.0	2.7
90°	13.7	13.7	13.7	13.7	16.4	16.4	16.4	16.4	16.4

(END OF REPORT)