

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: P821209

Luminaire Tested: **TT-D2-735-24VDC-MQ-HSS**

Issue Date: 12/2/2020



Test Information

Test Method: LM-79-08
Report Number: P821209
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2010-017-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TT-D2-735-24VDC-MQ-HSS
Description: TOPTIER LED PARKING GARAGE LUMINAIRE
3500K, 70 CRI LEDS AND MEDIUM DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

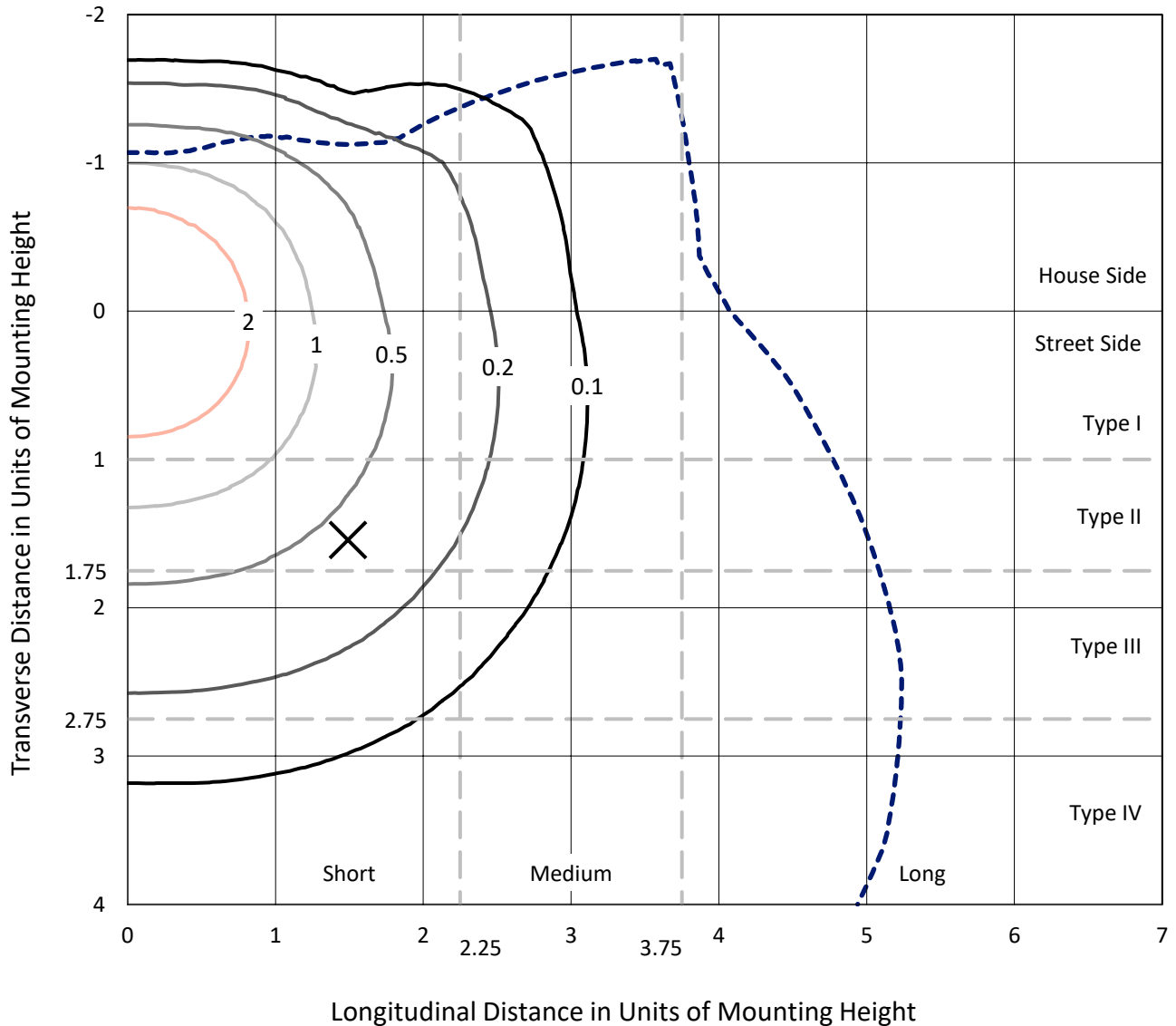
Lumens per Lamp: N/A
Luminaire Lumens: 4435 lumens
Efficiency: N/A
Efficacy: 116.7 lumens/watt
Luminous Opening: Circular (Dia: 1.12' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U2 - G2

Input Watts (W): 38
Input Voltage (V): NR
Input Current (A_{in}): 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: P821209
 CATALOG NUMBER: TT-D2-735-24VDC-MQ-HSS

Iso-Footcandle Lines of Horizontal Illumination

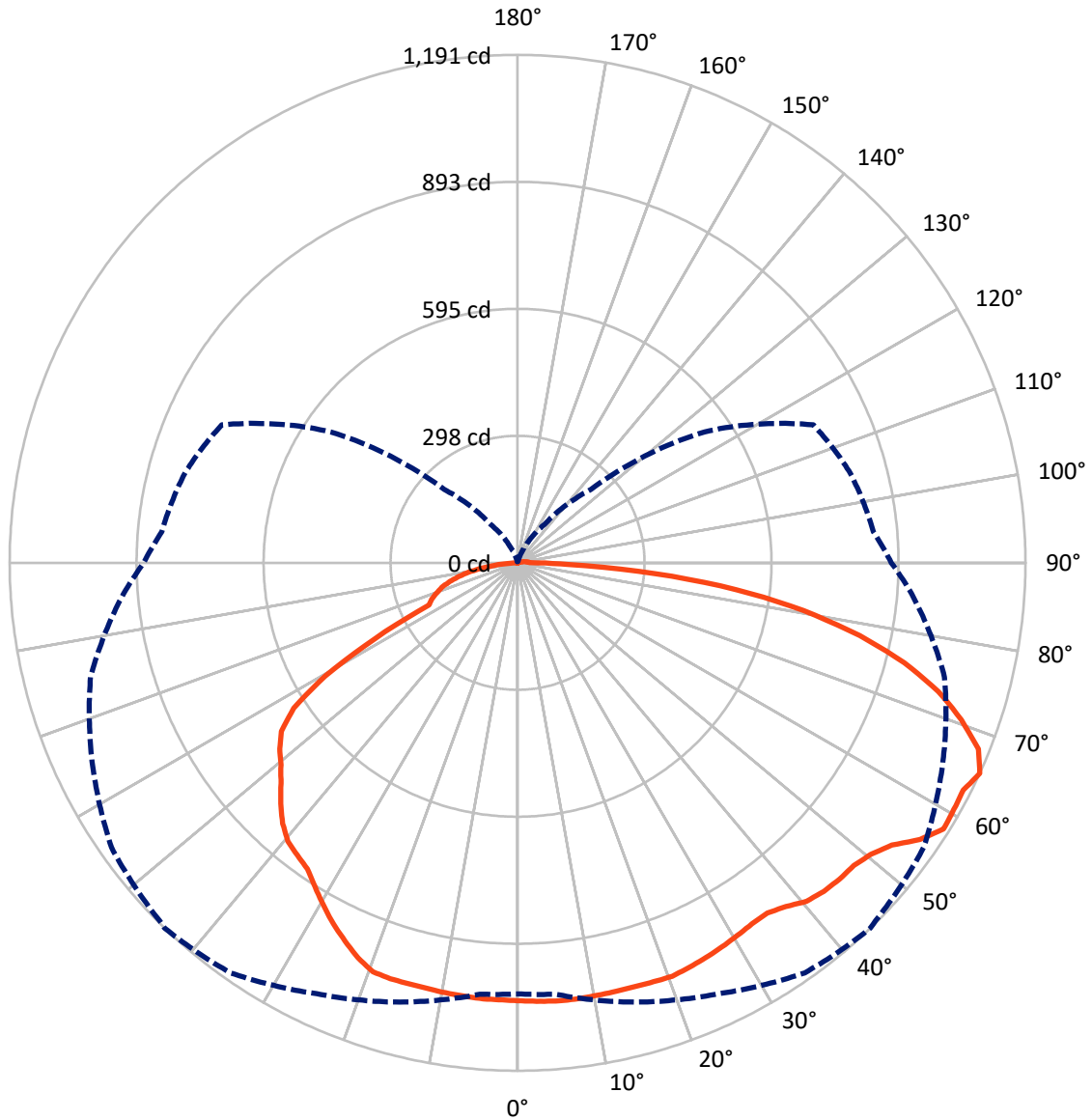
× Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 4.6 fc
 Type IV - Short - N/A

REPORT NUMBER: P821209
CATALOG NUMBER: TT-D2-735-24VDC-MQ-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P821209
 CATALOG NUMBER: TT-D2-735-24VDC-MQ-HSS

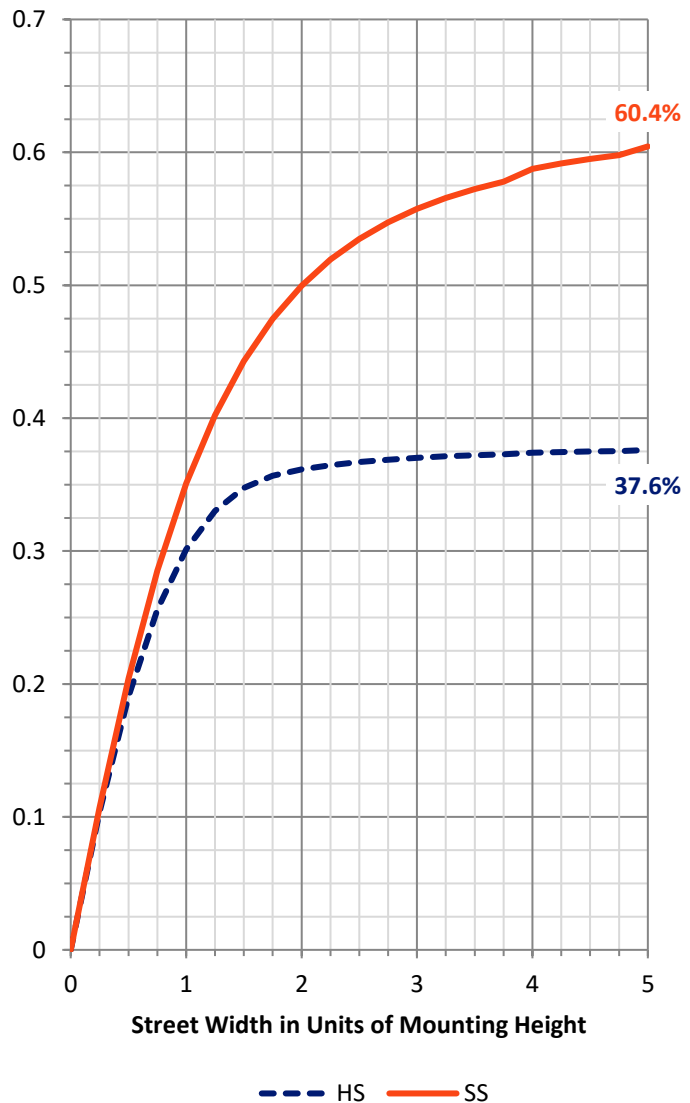
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1679.3	1.2	1680.5
	% Fixture	37.9	0.0	37.9
Street Side	Lumens	2739.5	15.1	2754.6
	% Fixture	61.8	0.3	62.1
Total	Lumens	4418.8	16.3	4435.0
	% Fixture	99.6	0.4	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.0	2.2
10°-20°	290.2	6.5
20°-30°	461.9	10.4
30°-40°	591.7	13.3
40°-50°	701.0	15.8
50°-60°	767.7	17.3
60°-70°	729.8	16.5
70°-80°	581.0	13.1
80°-90°	197.4	4.5
90°-100°	10.4	0.2
100°-110°	3.4	0.1
110°-120°	0.8	0.0
120°-130°	0.5	0.0
130°-140°	0.4	0.0
140°-150°	0.3	0.0
150°-160°	0.3	0.0
160°-170°	0.2	0.0
170°-180°	0.1	0.0
0°-90°	4418.8	99.6
0°-180°	4435.0	100.0

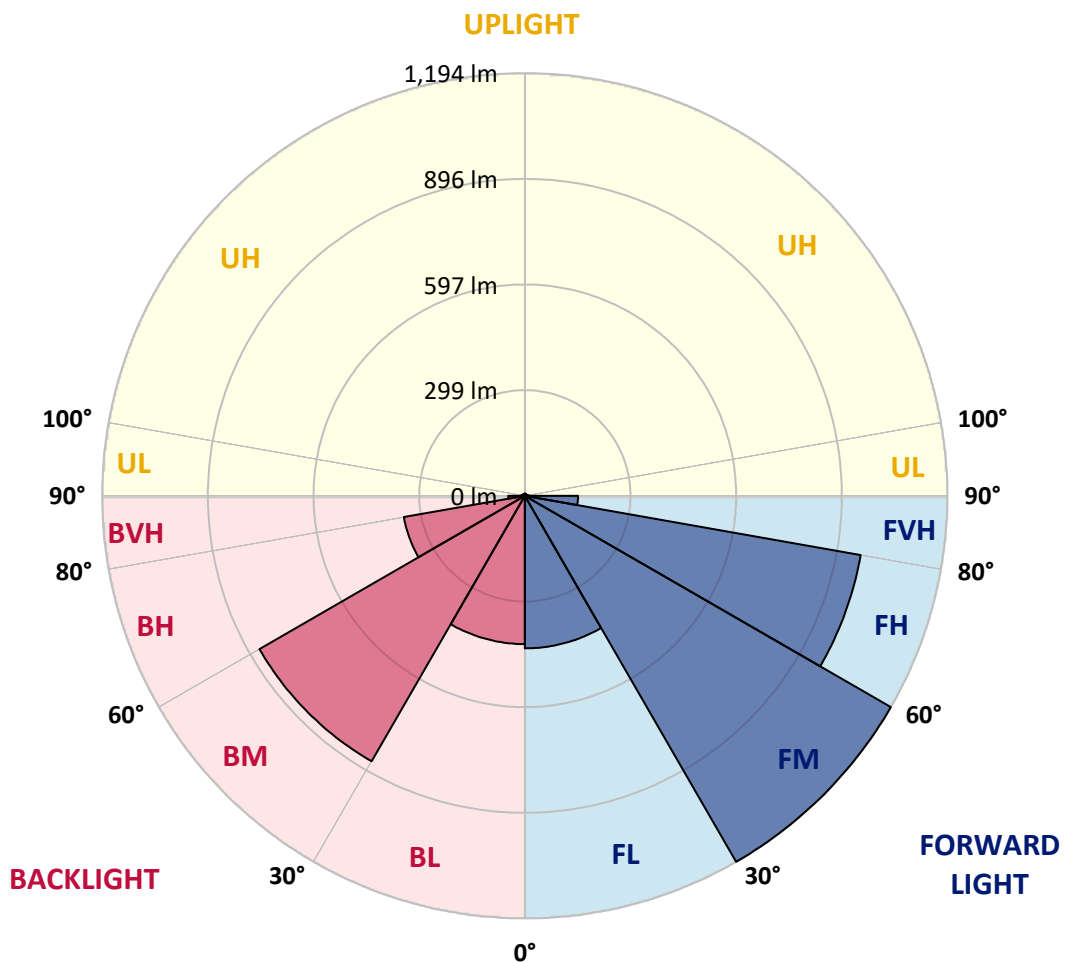


REPORT NUMBER: P821209
 CATALOG NUMBER: TT-D2-735-24VDC-MQ-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	431.1	9.7			
FM (30°-60°)	1194.3	26.9			
FH (60°-80°)	963.8	21.7			G1/1800
FVH (80°-90°)	150.3	3.4			G2/225
BL (0°-30°)	419.0	9.4	B1/500		
BM (30°-60°)	866.2	19.5	B1/1000		
BH (60°-80°)	347.0	7.8	B1/500		G1/500
BVH (80°-90°)	47.0	1.1			G1/100
UL (90°-100°)	10.4	0.2		U2/50	
UH (100°-180°)	5.9	0.1		U1/10	

BUG Rating: B1-U2-G2
 Type IV Short





REPORT NUMBER: P821209

CATALOG NUMBER: TT-D2-735-24VDC-MQ-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7
2.5°	1030.6	1029.8	1029.8	1029.8	1029.8	1029.8	1029.8	1028.2	1029.0	1026.7	1026.7
5°	1032.9	1031.4	1032.2	1032.2	1032.2	1031.4	1032.2	1029.8	1030.6	1027.5	1026.7
7.5°	1033.7	1032.9	1032.9	1032.9	1032.9	1031.4	1032.2	1030.6	1029.8	1027.5	1025.9
10°	1033.7	1032.9	1032.9	1032.9	1032.2	1030.6	1031.4	1029.0	1029.0	1025.9	1024.3
12.5°	1033.7	1032.9	1033.7	1032.2	1032.2	1030.6	1030.6	1028.2	1028.2	1024.3	1022.8
15°	1032.9	1032.2	1032.2	1032.9	1032.2	1030.6	1030.6	1028.2	1027.5	1022.8	1021.2
17.5°	1032.2	1031.4	1032.2	1032.9	1033.7	1032.2	1032.9	1029.0	1027.5	1022.8	1020.4
20°	1032.9	1032.2	1032.9	1034.5	1034.5	1034.5	1034.5	1030.6	1027.5	1022.8	1018.8
22.5°	1030.6	1030.6	1030.6	1030.6	1032.2	1029.8	1029.8	1027.5	1023.5	1019.6	1015.7
25°	1025.1	1025.1	1025.9	1026.7	1026.7	1025.1	1024.3	1022.0	1018.8	1014.1	1009.4
27.5°	1018.8	1018.8	1019.6	1019.6	1021.2	1019.6	1018.8	1015.7	1012.6	1007.1	1001.6
30°	1011.8	1011.8	1011.8	1013.3	1014.1	1014.1	1013.3	1009.4	1005.5	999.2	992.2
32.5°	1003.9	1003.9	1006.3	1007.9	1008.6	1008.6	1008.6	1003.9	999.2	991.4	981.2
35°	997.7	997.7	1000.8	1006.3	1009.4	1007.9	1007.1	1003.9	996.9	988.3	971.8
37.5°	1001.6	1001.6	1008.6	1016.5	1023.5	1022.0	1022.0	1016.5	1007.1	993.0	972.6
40°	1011.0	1011.8	1022.8	1032.9	1041.6	1043.1	1043.1	1036.9	1022.8	1004.7	976.5
42.5°	1013.3	1014.9	1025.9	1040.8	1048.6	1052.5	1052.5	1043.9	1029.0	1007.9	974.9
45°	1013.3	1014.1	1026.7	1042.3	1054.9	1058.0	1058.0	1048.6	1029.8	1009.4	969.5
47.5°	1013.3	1012.6	1023.5	1045.5	1058.0	1060.4	1060.4	1050.2	1032.2	1006.3	961.6
50°	1011.0	1014.9	1031.4	1048.6	1070.6	1073.7	1072.9	1061.9	1036.9	1010.2	955.4
52.5°	1016.5	1015.7	1037.6	1072.1	1091.7	1098.8	1099.6	1085.5	1059.6	1021.2	951.4
55°	1039.2	1040.0	1061.2	1101.1	1130.9	1144.2	1142.7	1124.6	1087.8	1043.1	962.4
57.5°	1047.0	1054.9	1085.5	1119.9	1165.4	1177.1	1177.1	1155.2	1110.5	1060.4	970.2
60°	1031.4	1034.5	1072.1	1130.9	1172.4	1174.8	1175.6	1159.9	1112.9	1051.0	954.6
62.5°	1027.5	1033.7	1062.7	1128.6	1155.2	1172.4	1171.7	1150.5	1110.5	1043.9	949.1
65°	1010.2	1014.9	1065.9	1114.4	1173.2	1190.5	1186.6	1162.3	1100.3	1036.1	931.8
67.5°	974.9	979.6	1026.7	1094.9	1148.1	1164.6	1168.5	1140.3	1076.0	999.2	895.0
70°	916.2	923.2	971.0	1037.6	1094.1	1103.5	1101.9	1084.7	1020.4	938.1	840.9
72.5°	833.9	844.8	905.2	968.7	1017.3	1031.4	1025.1	1005.5	953.0	864.4	767.3
75°	746.9	757.1	804.9	876.2	927.1	936.5	931.8	908.3	855.0	768.0	680.3
77.5°	652.1	660.7	701.4	774.3	811.9	819.8	822.1	790.8	740.6	662.2	583.9
80°	524.3	528.2	583.1	630.9	663.8	679.5	677.9	654.4	604.2	539.2	460.8
82.5°	387.2	390.3	432.6	473.4	503.1	517.3	509.4	485.9	445.9	390.3	330.7
85°	237.5	232.0	266.5	297.0	315.1	324.5	316.6	303.3	268.0	224.1	182.6
87.5°	85.4	80.7	96.4	101.1	121.5	118.3	125.4	101.1	81.5	58.0	40.8
90°	37.6	37.6	36.8	35.3	32.1	29.0	28.2	23.5	17.2	11.0	3.9
92.5°	34.5	34.5	33.7	32.1	29.0	25.9	25.9	21.2	15.7	10.2	3.9
95°	29.0	29.0	28.2	26.6	24.3	21.9	21.9	17.2	13.3	8.6	3.1
97.5°	22.7	22.7	21.9	21.2	18.8	17.2	17.2	14.1	10.2	6.3	2.4
100°	17.2	17.2	16.5	15.7	14.9	13.3	12.5	10.2	7.8	4.7	1.6
102.5°	12.5	12.5	12.5	11.8	10.2	9.4	9.4	7.8	5.5	3.9	1.6
105°	8.6	8.6	8.6	7.8	7.1	6.3	6.3	5.5	3.9	2.4	0.8
107.5°	5.5	5.5	5.5	5.5	4.7	3.9	3.9	3.1	2.4	1.6	0.8
110°	3.1	2.4	3.1	3.1	3.1	2.4	2.4	1.6	1.6	0.8	0.8



REPORT NUMBER: P821209
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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
112.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.8	0.8	0.8	0.8
115°	0.8	0.8	0.8	1.6	1.6	0.8	0.8	0.8	0.8	0.8	0.8
117.5°	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
120°	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
122.5°	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
125°	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
127.5°	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
130°	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
132.5°	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
135°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8
137.5°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8
140°	0.0	0.8	0.8	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8
142.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
145°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
147.5°	0.8	0.8	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8
150°	0.8	0.8	0.8	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8
152.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
155°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
157.5°	0.8	0.8	0.8	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8
160°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
162.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
165°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
167.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
170°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
172.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
175°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
177.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
180°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8



REPORT NUMBER: P821209

CATALOG NUMBER: TT-D2-735-24VDC-MQ-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7
2.5°	1026.7	1025.9	1025.1	1025.9	1025.1	1025.1	1024.3	1024.3	1023.5	1023.5	1022.8
5°	1026.7	1025.9	1025.1	1025.9	1024.3	1025.1	1025.1	1024.3	1023.5	1022.8	1022.0
7.5°	1025.9	1025.9	1024.3	1025.1	1023.5	1023.5	1022.8	1022.8	1022.0	1022.0	1021.2
10°	1024.3	1023.5	1023.5	1023.5	1022.0	1022.0	1021.2	1020.4	1020.4	1019.6	1018.8
12.5°	1022.8	1022.0	1021.2	1021.2	1020.4	1019.6	1018.8	1018.8	1018.1	1017.3	1016.5
15°	1020.4	1019.6	1019.6	1019.6	1018.8	1018.8	1018.1	1017.3	1015.7	1014.9	1014.1
17.5°	1019.6	1018.8	1019.6	1019.6	1018.8	1019.6	1018.1	1016.5	1014.9	1014.1	1013.3
20°	1018.8	1018.8	1018.8	1018.1	1017.3	1016.5	1015.7	1014.9	1014.1	1013.3	1012.6
22.5°	1014.9	1014.1	1012.6	1007.9	1002.4	998.5	997.7	999.2	999.2	999.2	996.9
25°	1007.9	1005.5	999.2	990.6	981.2	974.9	971.0	971.0	970.2	968.7	967.9
27.5°	999.2	994.5	983.6	972.6	959.3	951.4	942.0	936.5	934.2	933.4	931.8
30°	987.5	980.4	966.3	952.2	935.8	924.8	909.9	900.5	895.0	892.7	891.1
32.5°	973.4	966.3	949.9	932.6	913.0	897.4	878.5	863.7	853.5	848.8	846.4
35°	964.0	953.8	935.0	914.6	895.0	872.3	849.6	829.2	813.5	808.0	804.9
37.5°	960.1	950.7	930.3	909.9	888.0	860.5	833.9	804.9	783.7	774.3	771.2
40°	962.4	950.7	927.9	906.0	880.1	849.6	814.3	778.2	750.8	737.5	734.3
42.5°	956.9	943.6	917.0	893.4	861.3	826.8	783.7	742.2	705.3	694.4	689.7
45°	947.5	931.1	902.1	872.3	838.6	796.3	751.6	698.3	654.4	641.1	637.2
47.5°	938.1	915.4	880.9	853.5	812.7	763.3	710.8	651.3	596.4	583.1	580.7
50°	924.0	902.8	866.0	833.9	792.3	735.1	675.6	601.1	539.2	516.5	510.2
52.5°	917.7	890.3	855.0	830.0	779.8	714.8	639.5	559.6	470.2	442.0	435.7
55°	924.0	889.5	851.9	827.6	769.6	688.9	596.4	494.5	391.1	361.3	352.7
57.5°	913.0	883.3	845.6	818.2	743.0	635.6	533.7	402.8	295.5	257.1	253.9
60°	898.9	856.6	821.3	796.3	687.3	535.3	415.4	286.8	177.9	145.0	138.7
62.5°	893.4	849.6	808.8	778.2	612.9	393.4	253.1	145.0	73.7	51.7	47.0
65°	876.2	837.0	808.0	764.9	535.3	243.0	108.9	43.1	3.1	2.4	2.4
67.5°	843.3	803.3	783.7	758.6	527.4	232.0	98.7	39.2	1.6	0.0	0.0
70°	786.9	755.5	742.2	728.9	504.7	214.7	90.1	35.3	0.8	0.0	0.0
72.5°	712.4	691.2	688.9	687.3	471.8	198.3	80.7	31.3	0.8	0.0	0.0
75°	637.9	612.1	616.0	625.4	431.0	175.6	69.8	27.4	0.8	0.0	0.0
77.5°	543.9	525.1	534.5	550.2	377.8	148.9	57.2	21.9	0.8	0.0	0.0
80°	427.9	415.4	436.5	450.6	308.8	118.3	43.1	15.7	0.0	0.0	0.0
82.5°	304.1	297.0	316.6	334.6	229.6	83.9	29.8	10.2	0.0	0.0	0.0
85°	163.8	159.9	178.7	198.3	137.9	47.8	14.9	4.7	0.0	0.0	0.0
87.5°	40.8	37.6	38.4	46.2	33.7	10.2	2.4	0.8	0.0	0.0	0.0
90°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
102.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
110°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P821209
 CATALOG NUMBER: TT-D2-735-24VDC-MQ-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
115°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
117.5°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
122.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
125°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
127.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
130°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
135°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
147.5°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
162.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
165°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
167.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
170°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
172.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
175°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
177.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
180°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

(END OF REPORT)