

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: P198297

Luminaire Tested: **TT-C2-LED-E1-CQ-LWR-LW-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198297
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (P27139) AND DOWNLIGHT
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TT-C2-LED-E1-CQ-LWR-LW-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
CONCENTRATED DISTRIBUTION WITH LumaWatt WIRELESS SENSOR
Light Source: (168) 4000K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5253.3 lumens
Efficiency: N/A
Efficacy: 102.2 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B2 - U4 - G1

Input Watts (W): 51.4
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

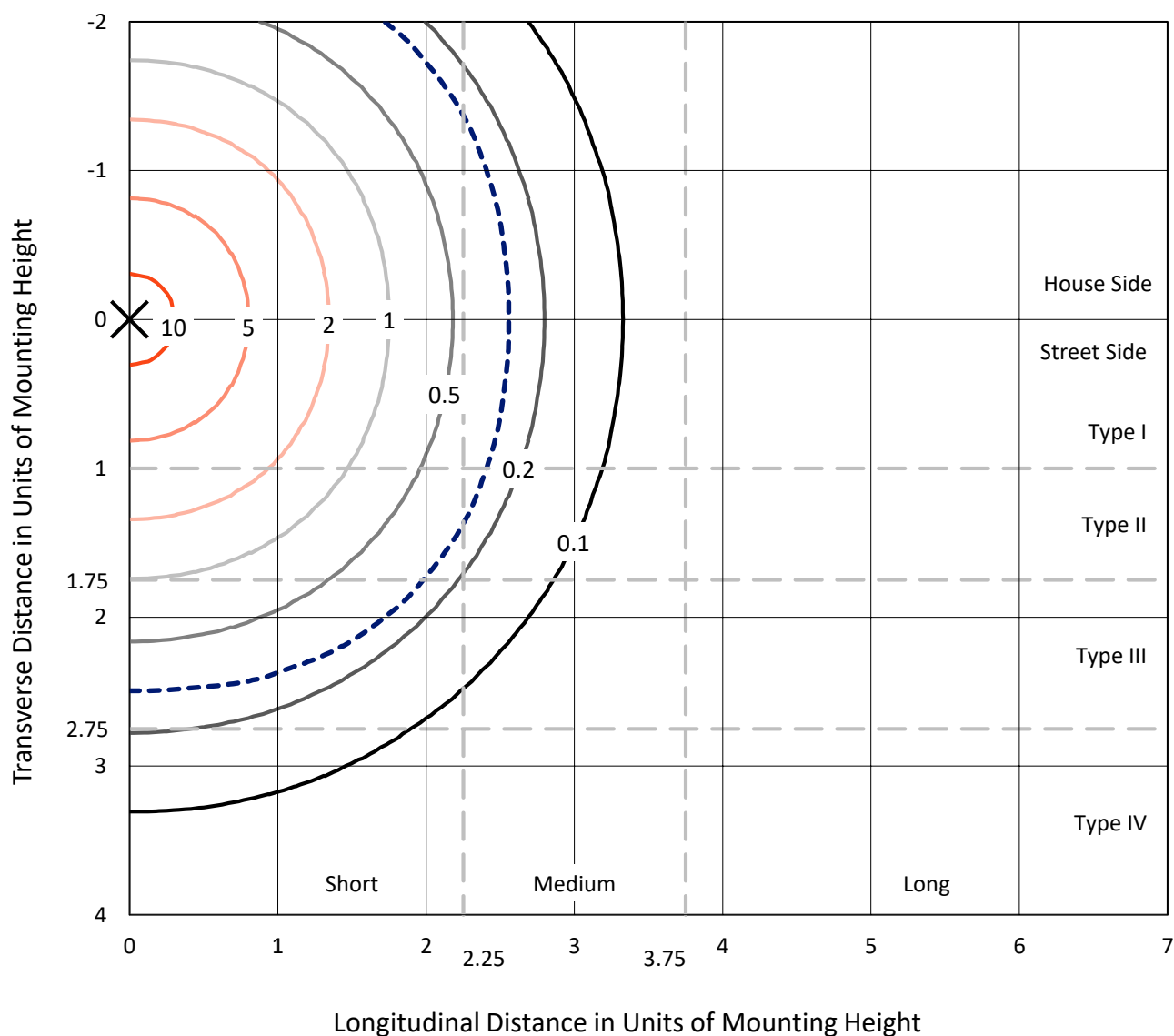


REPORT NUMBER: P198297

CATALOG NUMBER: TT-C2-LED-E1-CQ-LWR-LW-UPL

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 --- 1/2 Max cd

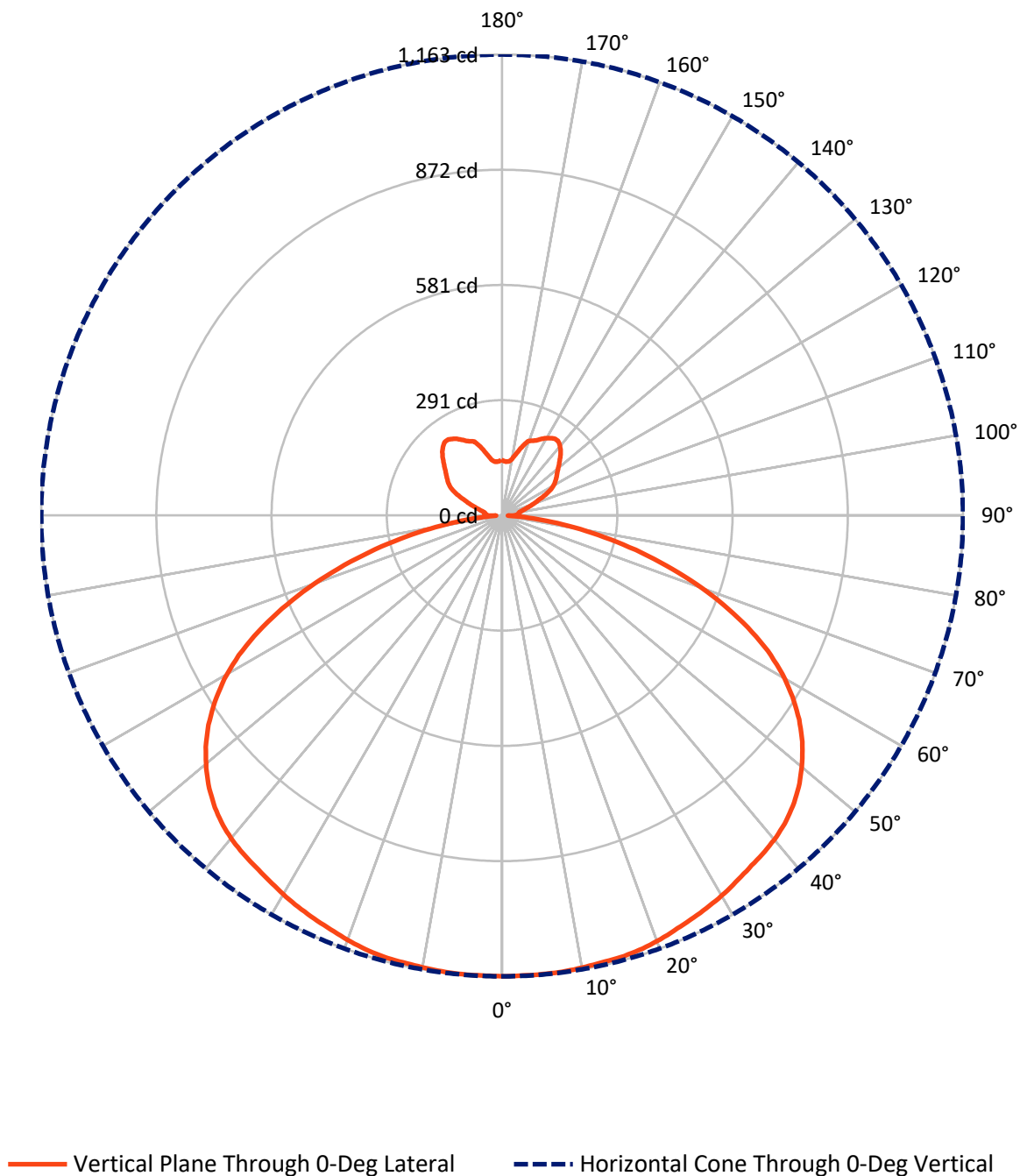


Based on 10 foot mounting height. Maximum calculated value = 11.6 fc
 Type V - Short - Semi-Cutoff

REPORT NUMBER: P198297

CATALOG NUMBER: TT-C2-LED-E1-CQ-LWR-LW-UPL

Luminous Intensity Polar Plot



REPORT NUMBER: P198297

CATALOG NUMBER: TT-C2-LED-E1-CQ-LWR-LW-UPL

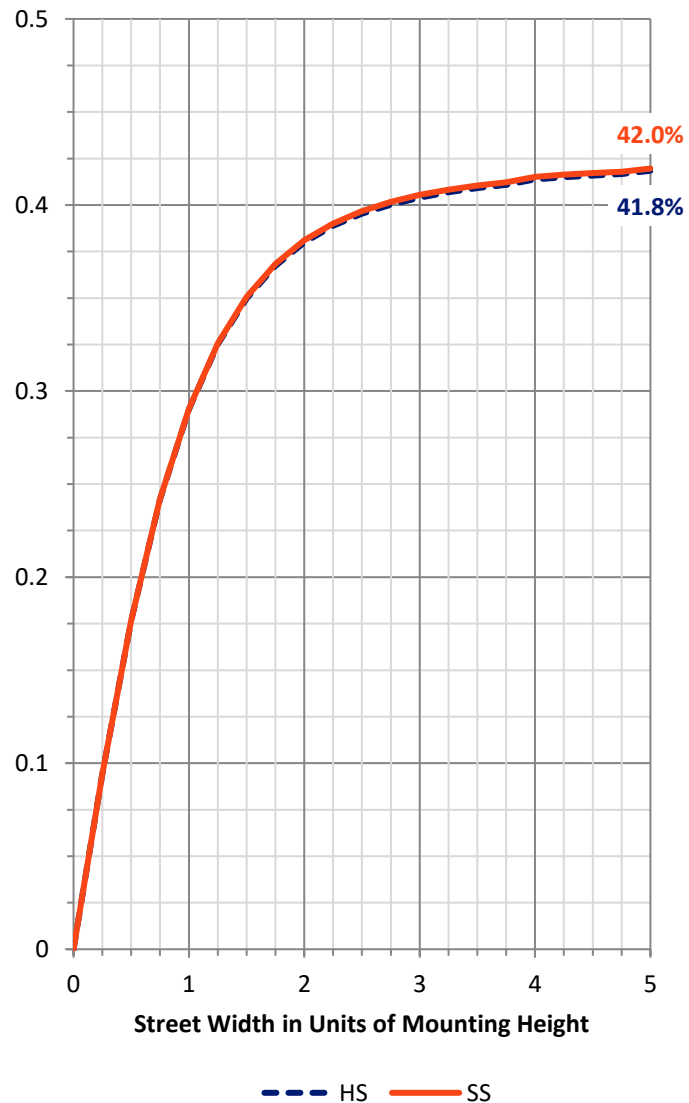
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2214.7	412.0	2626.6
	% Fixture	42.2	7.8	50.0
Street Side	Lumens	2214.7	412.0	2626.6
	% Fixture	42.2	7.8	50.0
Total	Lumens	4429.3	824.0	5253.3
	% Fixture	84.3	15.7	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.8	2.1
10°-20°	326.3	6.2
20°-30°	519.7	9.9
30°-40°	681.4	13.0
40°-50°	803.6	15.3
50°-60°	832.3	15.8
60°-70°	696.1	13.3
70°-80°	379.4	7.2
80°-90°	79.7	1.5
90°-100°	38.3	0.7
100°-110°	59.4	1.1
110°-120°	119.3	2.3
120°-130°	148.7	2.8
130°-140°	153.2	2.9
140°-150°	136.0	2.6
150°-160°	103.7	2.0
160°-170°	51.8	1.0
170°-180°	13.6	0.3
0°-90°	4429.3	84.3
0°-180°	5253.3	100.0

Coefficient of Utilization



REPORT NUMBER: P198297

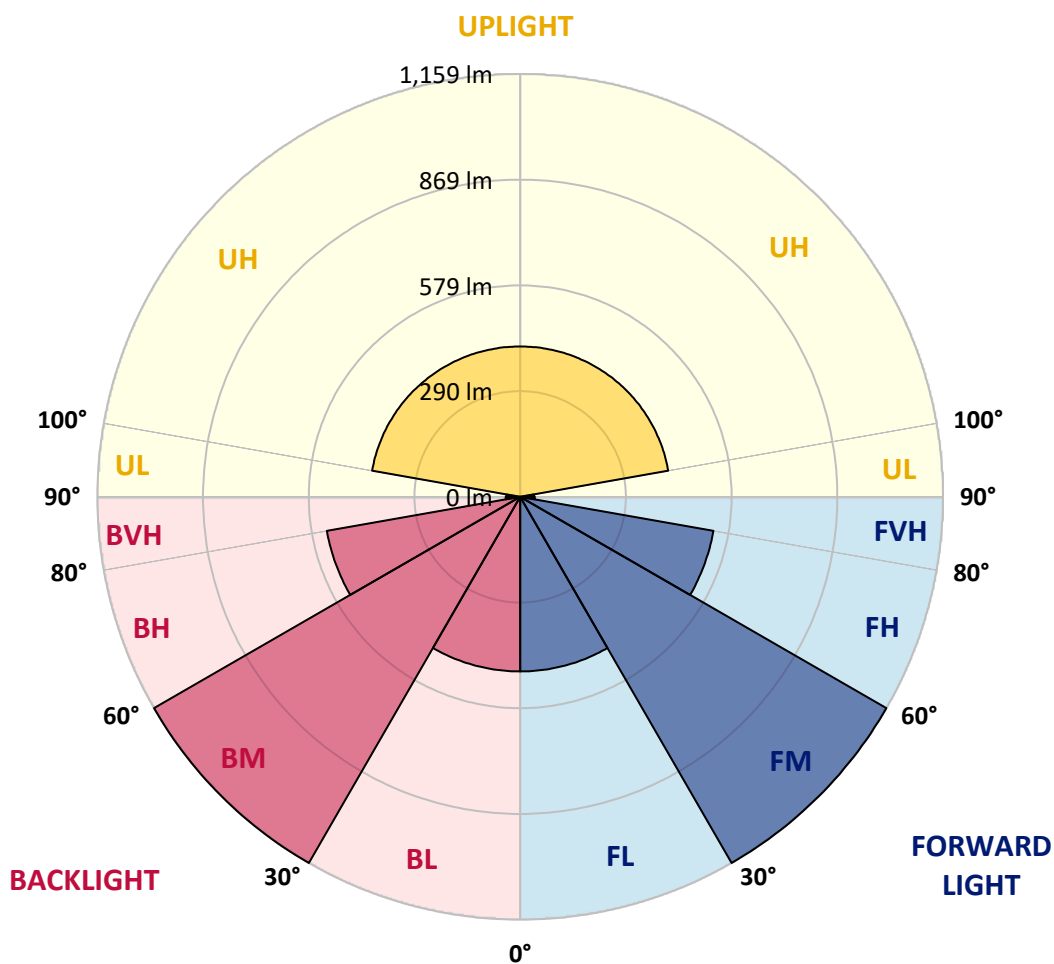
CATALOG NUMBER: TT-C2-LED-E1-CQ-LWR-LW-UPL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	478.4	9.1			
FM	(30°-60°)	1158.7	22.1			
FH	(60°-80°)	537.7	10.2			G0/660
FVH	(80°-90°)	39.8	0.8			G1/100
BL	(0°-30°)	478.4	9.1	B1/500		
BM	(30°-60°)	1158.7	22.1	B2/2500		
BH	(60°-80°)	537.7	10.2	B2/1000		G0/660
BVH	(80°-90°)	39.8	0.8			G1/100
UL	(90°-100°)	38.3	0.7		U2/50	
UH	(100°-180°)	412.0	7.8		U3/500	

BUG Rating: B2-U4-G1

Type V Short



REPORT NUMBER: P198297

CATALOG NUMBER: TT-C2-LED-E1-CQ-LWR-LW-UPL

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1162.9	1162.9	1162.9	1162.9	1162.9	1162.9	1162.9	1162.9	1162.9	1162.9	1162.9
2.5°	1162.0	1162.9	1162.9	1162.9	1162.9	1162.9	1162.9	1162.9	1162.0	1162.9	1162.9
5°	1162.0	1162.0	1162.0	1162.0	1162.9	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0
7.5°	1161.0	1160.1	1160.1	1160.1	1160.1	1160.1	1161.0	1161.0	1161.0	1161.0	1161.0
10°	1158.2	1158.2	1158.2	1158.2	1158.2	1158.2	1158.2	1158.2	1158.2	1158.2	1158.2
12.5°	1155.4	1155.4	1155.4	1155.4	1156.4	1156.4	1156.4	1156.4	1156.4	1156.4	1155.4
15°	1153.6	1153.6	1153.6	1153.6	1153.6	1153.6	1153.6	1153.6	1153.6	1153.6	1153.6
17.5°	1148.9	1148.9	1148.9	1148.9	1149.9	1149.9	1149.9	1149.9	1149.9	1149.9	1149.9
20°	1141.5	1141.5	1141.5	1141.5	1141.5	1142.4	1143.3	1143.3	1143.3	1143.3	1143.3
22.5°	1132.2	1132.2	1133.1	1133.1	1134.0	1134.0	1135.0	1135.0	1135.0	1135.0	1135.0
25°	1123.8	1123.8	1123.8	1124.7	1124.7	1124.7	1125.6	1126.6	1126.6	1126.6	1125.6
27.5°	1115.4	1115.4	1115.4	1116.3	1116.3	1116.3	1117.3	1117.3	1118.2	1117.3	1117.3
30°	1106.1	1105.2	1105.2	1106.1	1107.0	1107.0	1108.0	1108.0	1108.0	1108.0	1107.0
32.5°	1094.9	1094.9	1095.9	1096.8	1096.8	1097.7	1098.6	1098.6	1098.6	1099.6	1097.7
35°	1084.7	1085.6	1085.6	1086.5	1088.4	1089.3	1090.3	1091.2	1091.2	1091.2	1089.3
37.5°	1076.3	1077.2	1078.2	1080.0	1081.9	1083.7	1085.6	1087.5	1086.5	1086.5	1083.7
40°	1066.1	1067.0	1068.9	1070.7	1074.4	1076.3	1079.1	1081.0	1081.9	1081.0	1078.2
42.5°	1052.1	1053.0	1054.9	1057.7	1062.3	1066.1	1068.9	1071.6	1072.6	1071.6	1068.9
45°	1033.5	1034.4	1036.3	1040.0	1045.6	1049.3	1054.0	1056.7	1058.6	1058.6	1055.8
47.5°	1010.2	1011.1	1013.9	1017.6	1023.2	1027.9	1033.5	1037.2	1039.1	1040.9	1038.1
50°	981.3	982.3	986.0	990.6	995.3	1001.8	1008.3	1013.9	1016.7	1017.6	1016.7
52.5°	948.7	949.7	953.4	958.1	964.6	972.0	979.5	986.0	989.7	991.6	989.7
55°	909.6	911.5	914.3	920.8	928.3	934.8	944.1	951.5	956.2	957.1	956.2
57.5°	864.0	866.8	869.6	877.1	884.5	893.8	901.3	908.7	914.3	915.2	915.2
60°	812.8	814.7	817.5	824.9	833.3	839.8	850.1	857.5	862.2	862.2	863.1
62.5°	752.3	754.2	758.8	764.4	773.7	780.2	788.6	796.1	800.7	802.6	801.6
65°	681.5	683.4	686.2	693.6	701.1	708.5	716.9	723.4	728.1	729.0	728.1
67.5°	603.3	605.2	607.0	616.4	623.8	626.6	636.8	642.4	645.2	646.2	646.2
70°	520.5	521.4	524.2	528.8	537.2	540.0	546.5	551.2	553.0	556.8	554.0
72.5°	433.9	435.7	442.3	443.2	449.7	453.4	455.3	455.3	459.9	459.9	460.9
75°	348.2	349.1	351.9	352.9	357.5	357.5	356.6	358.5	362.2	362.2	363.1
77.5°	263.5	263.5	268.1	264.4	266.3	262.6	264.4	262.6	265.4	264.4	265.4
80°	184.3	184.3	187.1	183.4	184.3	180.6	181.6	180.6	180.6	181.6	181.6
82.5°	113.6	114.5	116.4	113.6	113.6	110.8	111.7	112.7	112.7	111.7	110.8
85°	55.9	55.9	57.7	56.8	55.9	54.0	54.9	55.9	55.9	54.9	54.9
87.5°	14.9	14.9	15.8	15.8	14.9	14.0	14.9	15.8	15.8	15.8	14.9
90°	36.0	36.0	36.0	36.0	35.0	34.0	31.0	29.0	27.0	26.0	26.0
92.5°	40.0	39.0	39.0	38.0	36.0	34.0	32.0	29.0	27.0	27.0	27.0
95°	44.0	43.0	42.0	41.0	38.0	36.0	34.0	32.0	31.0	30.0	30.0
97.5°	42.0	42.0	41.0	40.0	38.0	37.0	36.0	35.0	34.0	33.0	32.0
100°	45.0	45.0	45.0	44.0	42.0	40.0	39.0	38.0	36.0	36.0	35.0
102.5°	51.0	51.0	50.0	49.0	47.0	46.0	45.0	44.0	42.0	42.0	42.0
105°	60.0	60.0	59.0	57.0	55.0	54.0	53.0	53.0	51.0	52.0	52.0
107.5°	72.0	72.0	72.0	70.0	68.0	67.0	66.0	66.0	66.0	68.0	68.0
110°	86.0	86.0	87.0	89.0	86.0	85.0	85.0	86.0	86.0	87.0	86.0

REPORT NUMBER: P198297

CATALOG NUMBER: TT-C2-LED-E1-CQ-LWR-LW-UPL

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	101.0	102.0	104.0	108.0	106.0	107.0	107.0	110.0	108.0	107.0	103.0
115°	121.0	122.0	123.0	128.0	126.0	128.0	127.0	129.0	126.0	124.0	120.0
117.5°	140.0	141.0	141.0	144.0	141.0	141.0	140.0	141.0	138.0	136.0	135.0
120°	152.0	153.0	154.0	155.0	151.0	149.0	147.0	149.0	147.0	147.0	148.0
122.5°	161.0	162.0	163.0	164.0	159.0	154.0	153.0	155.0	156.0	158.0	158.0
125°	169.0	169.0	170.0	172.0	168.0	163.0	160.0	165.0	166.0	168.0	167.0
127.5°	177.0	177.0	179.0	181.0	177.0	171.0	170.0	176.0	177.0	178.0	175.0
130°	187.0	188.0	190.0	191.0	185.0	179.0	179.0	186.0	187.0	186.0	183.0
132.5°	198.0	199.0	200.0	201.0	193.0	186.0	187.0	193.0	195.0	195.0	191.0
135°	210.0	210.0	211.0	209.0	199.0	192.0	193.0	199.0	202.0	201.0	197.0
137.5°	221.0	219.0	217.0	213.0	203.0	197.0	198.0	205.0	207.0	208.0	203.0
140°	229.0	226.0	222.0	216.0	205.0	200.0	201.0	207.0	210.0	213.0	212.0
142.5°	235.0	231.0	225.0	218.0	206.0	201.0	202.0	208.0	212.0	218.0	218.0
145°	235.0	230.0	225.0	218.0	207.0	202.0	204.0	211.0	215.0	223.0	225.0
147.5°	230.0	227.0	223.0	219.0	210.0	207.0	209.0	216.0	220.0	229.0	233.0
150°	224.0	221.0	219.0	220.0	215.0	214.0	216.0	222.0	227.0	235.0	239.0
152.5°	216.0	214.0	216.0	221.0	220.0	220.0	224.0	230.0	234.0	241.0	241.0
155°	208.0	207.0	211.0	219.0	222.0	224.0	229.0	237.0	239.0	243.0	239.0
157.5°	203.0	203.0	207.0	216.0	220.0	224.0	229.0	234.0	232.0	235.0	230.0
160°	199.0	198.0	203.0	210.0	212.0	213.0	216.0	219.0	216.0	219.0	216.0
162.5°	185.0	184.0	188.0	193.0	194.0	193.0	196.0	198.0	195.0	198.0	196.0
165°	169.0	167.0	169.0	173.0	173.0	173.0	175.0	176.0	174.0	177.0	175.0
167.5°	154.0	152.0	153.0	156.0	156.0	155.0	157.0	159.0	157.0	159.0	158.0
170°	142.0	141.0	142.0	145.0	144.0	144.0	146.0	147.0	146.0	147.0	147.0
172.5°	137.0	135.0	136.0	139.0	139.0	138.0	140.0	141.0	140.0	141.0	140.0
175°	136.0	134.0	135.0	137.0	137.0	137.0	138.0	139.0	138.0	139.0	138.0
177.5°	137.0	136.0	136.0	139.0	138.0	138.0	139.0	140.0	139.0	139.0	138.0
180°	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0

REPORT NUMBER: P198297

CATALOG NUMBER: TT-C2-LED-E1-CQ-LWR-LW-UPL

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1162.9	1162.9	1162.9	1162.9	1162.9	1162.9	1162.9	1162.9
2.5°	1162.0	1162.0	1162.9	1162.0	1162.9	1162.0	1162.9	1162.9
5°	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0
7.5°	1160.1	1161.0	1160.1	1160.1	1160.1	1161.0	1160.1	1161.0
10°	1158.2	1158.2	1158.2	1158.2	1158.2	1158.2	1158.2	1158.2
12.5°	1155.4	1155.4	1155.4	1155.4	1155.4	1155.4	1155.4	1154.5
15°	1153.6	1152.6	1152.6	1152.6	1151.7	1151.7	1151.7	1151.7
17.5°	1149.9	1148.9	1148.0	1148.0	1148.0	1148.0	1147.1	1147.1
20°	1143.3	1142.4	1141.5	1141.5	1140.5	1140.5	1139.6	1139.6
22.5°	1134.0	1134.0	1133.1	1132.2	1132.2	1131.2	1131.2	1130.3
25°	1125.6	1124.7	1123.8	1122.9	1121.9	1121.9	1121.0	1120.1
27.5°	1116.3	1114.5	1113.5	1112.6	1111.7	1110.7	1109.8	1108.9
30°	1106.1	1104.2	1102.4	1101.4	1099.6	1097.7	1096.8	1095.9
32.5°	1095.9	1094.0	1091.2	1088.4	1086.5	1084.7	1082.8	1081.9
35°	1087.5	1083.7	1081.0	1077.2	1074.4	1071.6	1070.7	1069.8
37.5°	1081.0	1077.2	1072.6	1068.9	1066.1	1062.3	1060.5	1058.6
40°	1074.4	1069.8	1064.2	1059.5	1055.8	1051.2	1049.3	1047.4
42.5°	1065.1	1059.5	1054.0	1048.4	1042.8	1038.1	1035.3	1033.5
45°	1052.1	1046.5	1040.0	1032.5	1027.0	1021.4	1018.6	1016.7
47.5°	1034.4	1028.8	1021.4	1014.9	1008.3	1002.7	999.0	997.2
50°	1013.0	1007.4	1000.0	992.5	986.0	979.5	976.7	973.9
52.5°	986.0	981.3	973.0	967.4	959.9	953.4	950.6	948.7
55°	952.5	947.8	939.4	933.8	926.4	920.8	917.1	914.3
57.5°	911.5	907.8	898.5	892.9	885.4	879.8	877.1	875.2
60°	861.2	857.5	848.2	842.6	836.1	829.6	827.7	825.8
62.5°	798.8	797.0	789.5	783.0	776.5	770.0	768.1	767.2
65°	726.2	724.4	717.8	712.3	706.7	701.1	699.2	697.4
67.5°	643.4	642.4	636.8	632.2	628.5	622.9	621.9	620.1
70°	554.9	553.0	548.4	544.7	541.9	537.2	536.3	534.4
72.5°	462.7	461.8	459.0	454.4	454.4	447.8	446.9	446.0
75°	361.2	365.9	362.2	360.3	360.3	356.6	356.6	355.7
77.5°	264.4	269.1	271.9	268.1	271.9	268.1	268.1	267.2
80°	180.6	184.3	187.1	184.3	189.0	186.2	186.2	189.9
82.5°	109.9	113.6	115.5	114.5	117.3	116.4	115.5	118.2
85°	54.0	55.9	56.8	56.8	57.7	55.9	57.7	58.7
87.5°	14.0	14.9	15.8	14.9	15.8	15.8	15.8	16.8
90°	28.0	30.0	32.0	33.0	34.0	34.0	34.0	34.0
92.5°	28.0	30.0	32.0	33.0	35.0	36.0	36.0	36.0
95°	30.0	32.0	34.0	35.0	37.0	38.0	39.0	38.0
97.5°	33.0	34.0	34.0	35.0	36.0	36.0	36.0	36.0
100°	36.0	37.0	38.0	38.0	38.0	38.0	37.0	37.0
102.5°	43.0	44.0	44.0	42.0	42.0	41.0	41.0	41.0
105°	54.0	54.0	53.0	51.0	49.0	48.0	48.0	49.0
107.5°	68.0	68.0	66.0	63.0	60.0	59.0	59.0	60.0
110°	84.0	83.0	84.0	81.0	78.0	76.0	74.0	75.0

REPORT NUMBER: P198297

CATALOG NUMBER: TT-C2-LED-E1-CQ-LWR-LW-UPL

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	102.0	102.0	105.0	103.0	100.0	98.0	95.0	94.0
115°	121.0	123.0	125.0	124.0	123.0	121.0	116.0	113.0
117.5°	138.0	140.0	141.0	139.0	139.0	139.0	133.0	129.0
120°	150.0	151.0	153.0	148.0	148.0	148.0	145.0	142.0
122.5°	159.0	160.0	162.0	156.0	155.0	156.0	153.0	150.0
125°	167.0	167.0	168.0	164.0	163.0	164.0	160.0	158.0
127.5°	176.0	175.0	175.0	173.0	173.0	173.0	166.0	163.0
130°	183.0	182.0	183.0	181.0	184.0	181.0	171.0	169.0
132.5°	190.0	189.0	192.0	189.0	192.0	190.0	179.0	176.0
135°	196.0	197.0	201.0	199.0	199.0	195.0	185.0	184.0
137.5°	203.0	205.0	210.0	207.0	204.0	198.0	191.0	190.0
140°	212.0	214.0	217.0	214.0	209.0	202.0	195.0	195.0
142.5°	220.0	222.0	223.0	217.0	211.0	204.0	198.0	198.0
145°	230.0	230.0	227.0	217.0	211.0	205.0	201.0	202.0
147.5°	239.0	236.0	229.0	218.0	212.0	207.0	204.0	206.0
150°	242.0	240.0	232.0	220.0	214.0	211.0	210.0	211.0
152.5°	242.0	241.0	235.0	223.0	219.0	217.0	215.0	216.0
155°	238.0	237.0	234.0	227.0	224.0	223.0	220.0	219.0
157.5°	228.0	229.0	229.0	226.0	226.0	225.0	222.0	219.0
160°	215.0	217.0	219.0	219.0	221.0	222.0	218.0	215.0
162.5°	196.0	199.0	200.0	201.0	204.0	208.0	207.0	207.0
165°	176.0	179.0	181.0	181.0	185.0	189.0	190.0	192.0
167.5°	160.0	163.0	165.0	164.0	168.0	171.0	172.0	174.0
170°	148.0	150.0	152.0	152.0	155.0	158.0	159.0	160.0
172.5°	141.0	144.0	145.0	144.0	146.0	149.0	149.0	151.0
175°	138.0	140.0	141.0	140.0	141.0	143.0	143.0	144.0
177.5°	138.0	140.0	140.0	138.0	140.0	141.0	141.0	141.0
180°	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0

(END OF REPORT)