

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: P198353

Luminaire Tested: **TT-C2-LED-E1-WQ-MS/DIM-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198353
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-WQ-MS/DIM-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
WIDE DISTRIBUTION WITH DIMMING OCCUPANCY SENSOR
Light Source: (168) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5127.5 lumens
Efficiency: N/A
Efficacy: 99.8 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B2 - U4 - G2

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

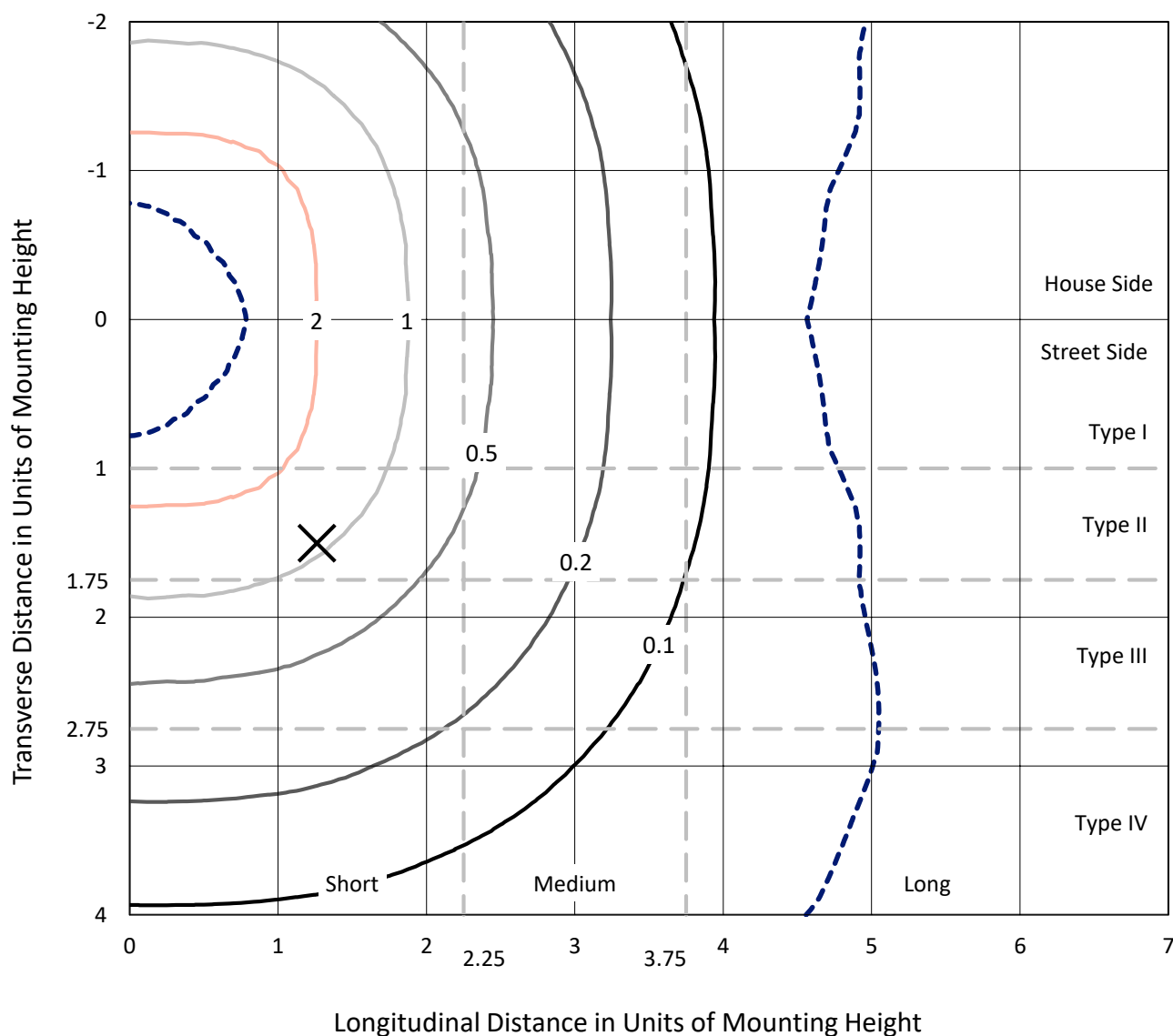


REPORT NUMBER: P198353

CATALOG NUMBER: TT-C2-LED-E1-WQ-MS/DIM-UPL

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

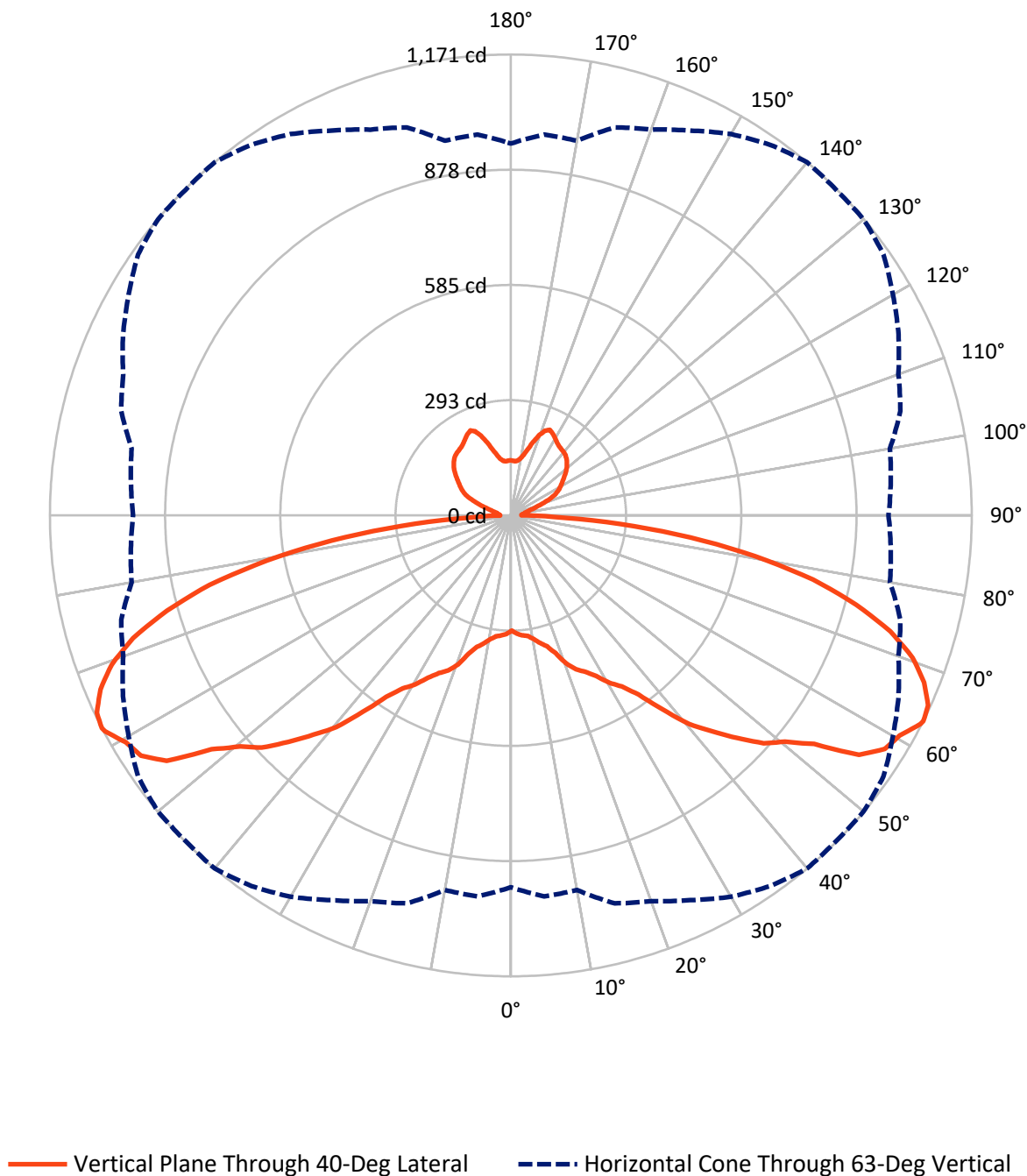


Based on 10 foot mounting height. Maximum calculated value = 3.3 fc
 Type V - Short - Semi-Cutoff

REPORT NUMBER: P198353

CATALOG NUMBER: TT-C2-LED-E1-WQ-MS/DIM-UPL

Luminous Intensity Polar Plot



REPORT NUMBER: P198353

CATALOG NUMBER: TT-C2-LED-E1-WQ-MS/DIM-UPL

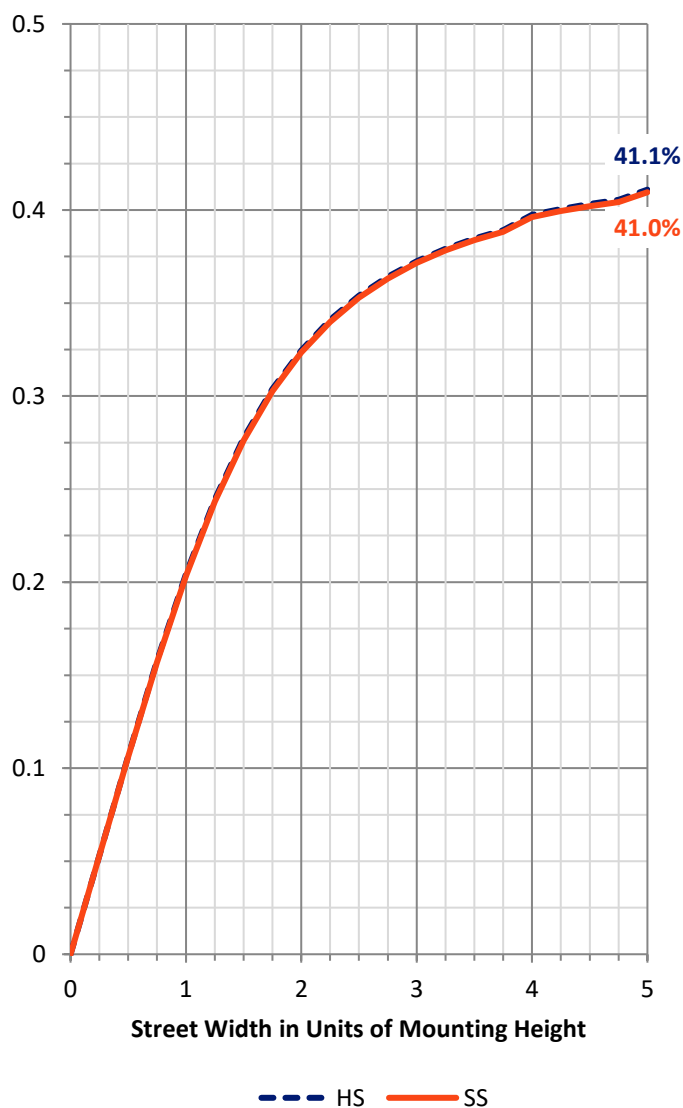
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2151.8	412.0	2563.8
	% Fixture	42.0	8.0	50.0
Street Side	Lumens	2151.8	412.0	2563.8
	% Fixture	42.0	8.0	50.0
Total	Lumens	4303.6	824.0	5127.5
	% Fixture	83.9	16.1	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.5	0.6
10°-20°	100.4	2.0
20°-30°	204.2	4.0
30°-40°	351.9	6.9
40°-50°	592.8	11.6
50°-60°	872.9	17.0
60°-70°	1038.1	20.2
70°-80°	840.4	16.4
80°-90°	273.2	5.3
90°-100°	38.3	0.7
100°-110°	59.4	1.2
110°-120°	119.3	2.3
120°-130°	148.7	2.9
130°-140°	153.2	3.0
140°-150°	136.0	2.7
150°-160°	103.7	2.0
160°-170°	51.8	1.0
170°-180°	13.6	0.3
0°-90°	4303.6	83.9
0°-180°	5127.5	100.0

Coefficient of Utilization



REPORT NUMBER: P198353

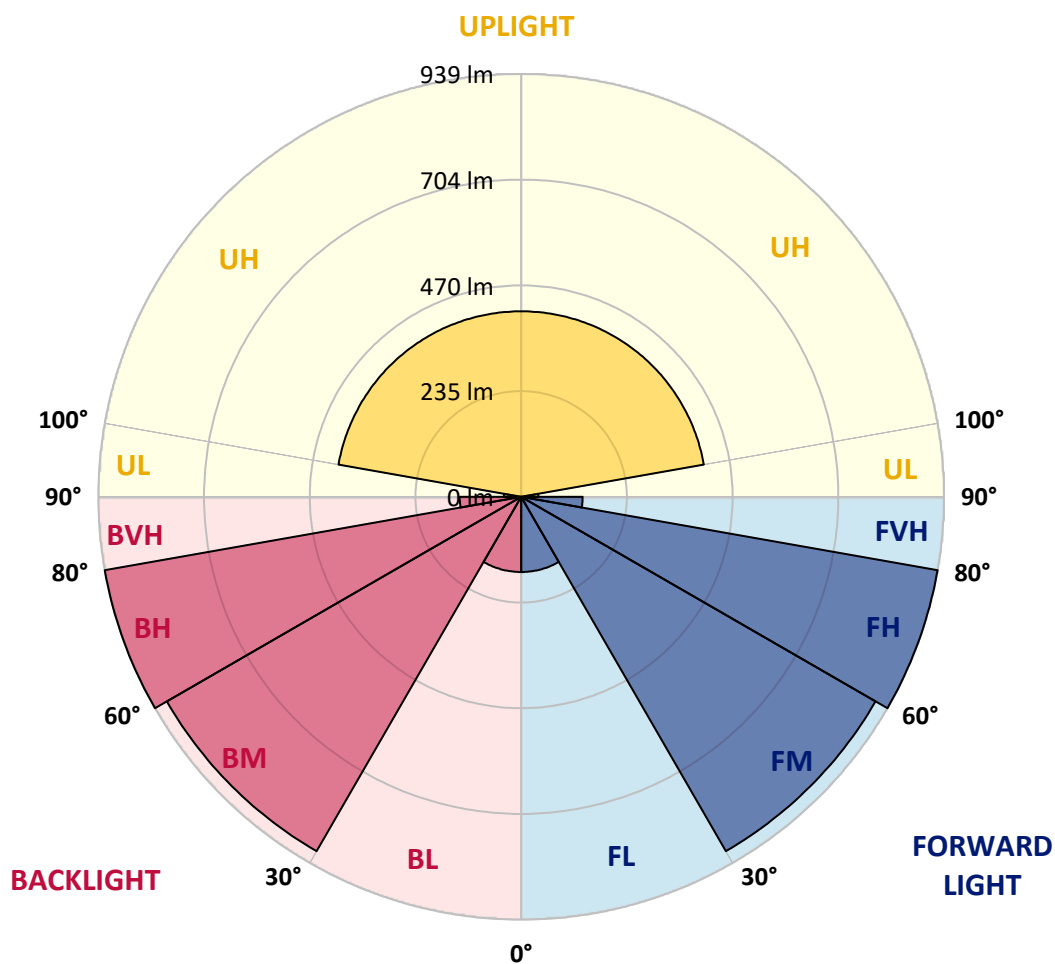
CATALOG NUMBER: TT-C2-LED-E1-WQ-MS/DIM-UPL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	167.1	3.3			
FM	(30°-60°)	908.8	17.7			
FH	(60°-80°)	939.2	18.3			G1/1800
FVH	(80°-90°)	136.6	2.7			G2/225
BL	(0°-30°)	167.1	3.3	B1/500		
BM	(30°-60°)	908.8	17.7	B1/1000		
BH	(60°-80°)	939.2	18.3	B2/1000		G1/1800
BVH	(80°-90°)	136.6	2.7			G2/225
UL	(90°-100°)	38.3	0.7		U2/50	
UH	(100°-180°)	412.0	8.0		U3/500	

BUG Rating: B2-U4-G2

Type V Short



REPORT NUMBER: P198353

CATALOG NUMBER: TT-C2-LED-E1-WQ-MS/DIM-UPL

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7
2.5°	301.9	301.9	301.9	301.9	301.9	301.9	301.0	301.9	301.0	301.0	301.0
5°	307.6	307.6	307.6	307.6	306.9	306.9	306.0	306.0	306.0	305.2	306.0
7.5°	310.2	310.2	310.2	310.2	309.3	309.3	309.3	309.3	309.3	309.3	309.3
10°	316.0	316.0	316.8	317.7	319.3	319.3	319.3	320.2	319.3	319.3	319.3
12.5°	328.5	327.6	329.3	331.0	332.7	333.4	333.4	333.4	332.7	332.7	333.4
15°	345.9	344.3	345.1	345.9	346.8	347.6	347.6	346.8	345.1	345.1	345.1
17.5°	368.4	365.9	365.1	364.2	364.2	365.9	367.5	366.8	367.5	366.8	367.5
20°	395.0	393.3	393.3	393.3	394.1	397.5	400.8	402.5	401.6	400.0	402.5
22.5°	412.4	413.3	417.5	416.6	415.8	419.1	423.2	426.6	424.9	422.5	424.1
25°	431.6	431.6	437.4	439.9	437.4	437.4	439.1	441.5	439.9	438.2	439.9
27.5°	453.2	453.2	455.7	458.2	456.5	456.5	459.0	463.2	462.4	461.5	462.4
30°	478.9	475.6	473.2	477.3	481.5	482.4	484.8	491.5	493.2	492.3	493.9
32.5°	503.1	498.1	499.8	502.3	511.4	514.8	513.9	518.9	518.1	515.6	518.9
35°	526.4	532.2	535.5	540.5	543.8	548.0	548.0	557.1	558.8	556.4	558.8
37.5°	571.3	573.8	583.0	583.7	587.9	603.7	605.3	617.8	624.5	621.2	622.0
40°	632.8	632.0	638.7	648.6	657.0	676.9	682.7	691.0	696.9	694.4	697.7
42.5°	682.7	676.1	681.0	702.6	711.8	726.8	734.3	738.5	749.3	745.9	750.1
45°	718.5	720.9	727.7	749.3	755.0	767.5	785.0	792.5	806.6	802.5	805.0
47.5°	753.4	765.1	770.9	780.8	799.1	815.8	837.4	844.9	864.8	863.1	860.7
50°	799.1	808.3	814.9	822.4	847.4	874.8	893.1	896.4	903.1	898.1	906.4
52.5°	848.2	847.4	853.2	873.9	908.9	919.7	935.5	950.5	964.6	969.6	964.6
55°	913.1	892.2	916.4	946.3	961.3	987.1	1025.3	1046.1	1073.6	1077.7	1069.4
57.5°	939.7	939.7	964.6	982.1	1009.5	1055.3	1096.0	1106.0	1120.1	1112.6	1121.0
60°	936.4	967.9	967.9	998.7	1043.6	1084.4	1099.3	1115.9	1135.1	1134.3	1134.3
62.5°	940.5	971.3	962.9	1016.2	1043.6	1076.9	1110.1	1140.9	1167.6	1166.7	1165.9
63°	944.6	971.3	966.3	1020.3	1042.8	1078.5	1118.5	1149.2	1170.9	1169.2	1170.0
65°	957.1	949.6	979.6	1013.7	1039.5	1092.7	1126.0	1150.0	1165.0	1164.2	1164.2
67.5°	933.8	916.4	958.8	972.1	1021.2	1068.6	1094.3	1121.8	1132.6	1132.6	1130.9
70°	862.4	869.8	899.0	920.6	970.4	1012.8	1034.4	1069.4	1082.7	1082.7	1081.9
72.5°	790.0	802.5	822.4	853.2	900.6	933.8	959.6	991.2	1008.7	1007.8	1007.8
75°	697.7	709.4	732.6	761.8	803.3	835.8	856.5	886.5	906.4	913.9	905.6
77.5°	593.8	597.1	618.7	648.6	685.2	707.7	739.3	768.4	785.0	784.1	781.7
80°	467.4	471.5	489.8	523.9	543.8	570.5	599.6	615.4	629.5	629.5	627.8
82.5°	322.6	331.8	350.1	372.5	393.3	416.6	432.4	448.2	459.9	459.0	456.5
85°	182.1	186.3	203.7	217.9	233.6	248.6	259.4	269.5	279.4	279.4	277.7
87.5°	54.9	49.1	59.0	64.9	73.1	80.6	85.7	95.6	102.3	94.8	94.8
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

REPORT NUMBER: P198353

CATALOG NUMBER: TT-C2-LED-E1-WQ-MS/DIM-UPL

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
110°	86.0	86.0	87.0	89.0	86.0	85.0	85.0	86.0	86.0	87.0	86.0
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: P198353

CATALOG NUMBER: TT-C2-LED-E1-WQ-MS/DIM-UPL

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7
2.5°	301.9	301.9	301.9	301.9	301.9	301.9	301.9	301.9
5°	306.0	306.9	306.9	307.6	307.6	307.6	307.6	307.6
7.5°	309.3	309.3	309.3	309.3	310.2	310.2	310.2	310.2
10°	319.3	320.2	319.3	319.3	317.7	316.8	316.8	316.8
12.5°	333.4	334.3	334.3	332.7	331.0	329.3	328.5	327.6
15°	346.8	349.2	347.6	346.8	345.1	345.9	345.9	346.8
17.5°	367.5	368.4	365.9	364.2	363.4	365.1	366.8	367.5
20°	403.3	401.6	396.7	395.0	393.3	393.3	395.0	395.0
22.5°	425.8	421.6	418.3	416.6	416.6	416.6	414.1	410.8
25°	441.5	439.1	436.6	438.2	439.9	437.4	431.6	430.7
27.5°	463.2	458.2	457.3	456.5	457.3	455.7	454.9	451.6
30°	491.5	484.8	483.1	481.5	476.5	474.9	476.5	478.9
32.5°	518.1	513.9	515.6	512.2	503.1	499.8	501.4	500.6
35°	556.4	548.9	548.9	542.1	539.7	538.8	532.2	526.4
37.5°	617.0	607.0	604.6	589.6	583.0	584.6	575.5	568.8
40°	691.0	683.6	676.9	660.3	651.1	639.4	633.7	633.7
42.5°	740.1	735.1	726.0	714.3	704.3	684.4	676.9	681.0
45°	794.2	787.5	768.4	756.7	747.6	733.4	725.1	716.9
47.5°	849.0	839.9	817.5	802.5	780.8	776.6	767.5	755.9
50°	897.3	893.9	878.1	853.2	825.7	819.1	810.8	800.0
52.5°	956.3	936.4	923.0	912.2	881.4	859.8	848.2	853.2
55°	1052.7	1027.8	993.7	959.6	953.0	927.2	898.1	913.9
57.5°	1108.4	1094.3	1068.6	1014.5	987.9	970.4	951.3	937.1
60°	1121.8	1096.0	1090.2	1049.4	1007.1	970.4	977.9	944.6
62.5°	1147.6	1112.6	1080.2	1047.8	1022.0	972.1	970.4	953.0
63°	1155.9	1121.0	1086.8	1047.8	1024.5	977.9	968.8	959.6
65°	1154.2	1124.3	1098.5	1047.8	1012.8	994.6	949.6	970.4
67.5°	1122.7	1097.6	1067.7	1032.8	974.6	960.5	928.9	933.1
70°	1071.9	1039.5	1011.2	978.7	932.2	899.7	880.7	864.8
72.5°	992.9	963.8	933.8	903.9	862.4	823.3	810.0	792.5
75°	888.2	859.8	832.4	804.1	765.1	730.1	716.0	703.5
77.5°	768.4	744.2	705.2	678.6	656.1	618.7	605.3	592.1
80°	612.8	601.3	572.9	538.1	526.4	489.8	479.8	462.4
82.5°	445.7	434.0	411.6	387.5	373.4	354.3	337.6	325.9
85°	271.9	259.4	247.8	226.2	217.9	203.7	190.4	183.8
87.5°	98.2	88.1	79.0	69.0	64.0	54.0	52.4	47.4
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

REPORT NUMBER: P198353

CATALOG NUMBER: TT-C2-LED-E1-WQ-MS/DIM-UPL

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
110°	84.0	83.0	84.0	81.0	78.0	76.0	74.0	75.0
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)