

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: P198349

Luminaire Tested: **TT-C2-LED-E1-WQ-CG-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198349
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-CG-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
WIDE DISTRIBUTION WITH CLEAR GLASS LENS
Light Source: (168) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5035.4 lumens
Efficiency: N/A
Efficacy: 98.0 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

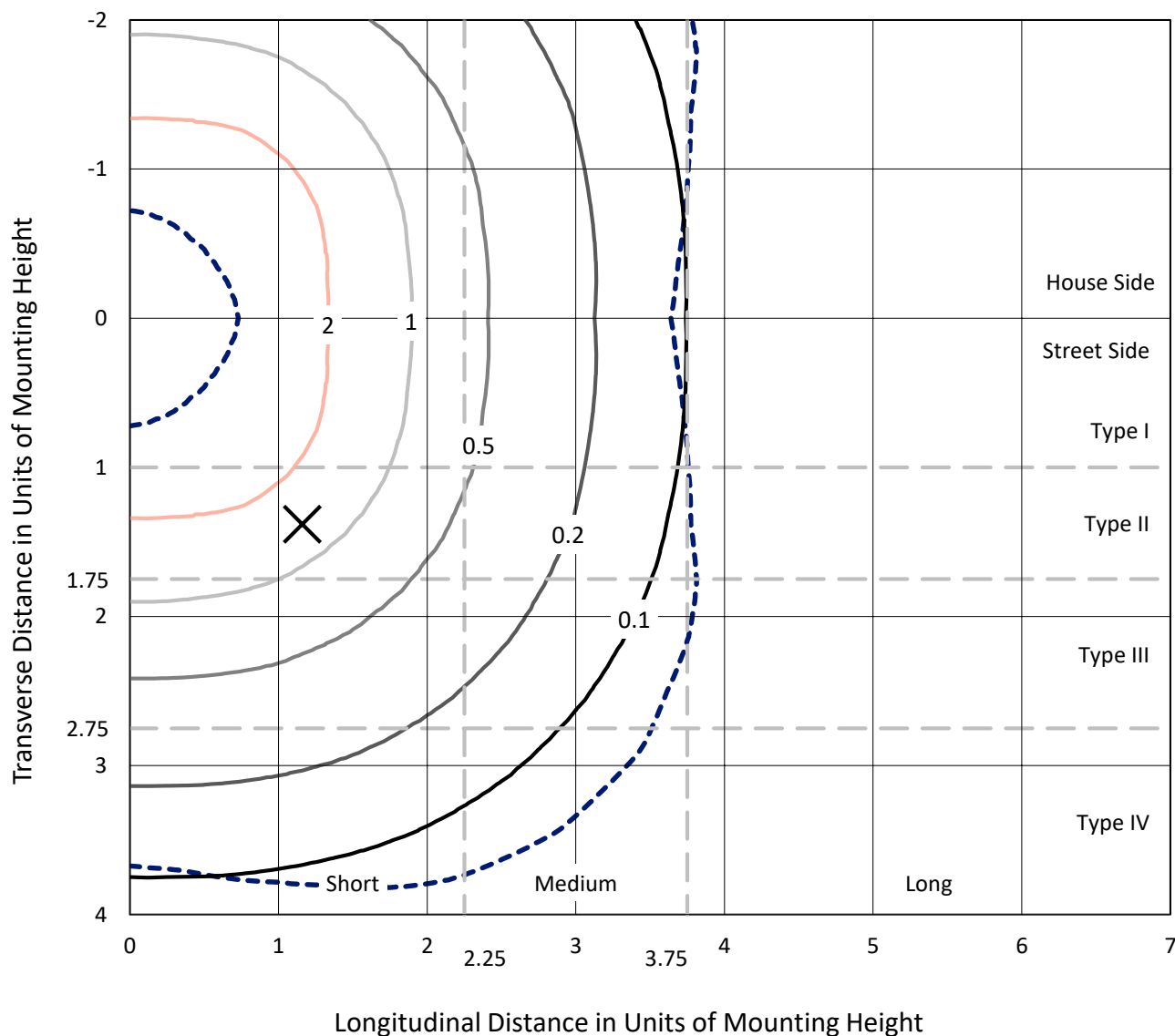


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

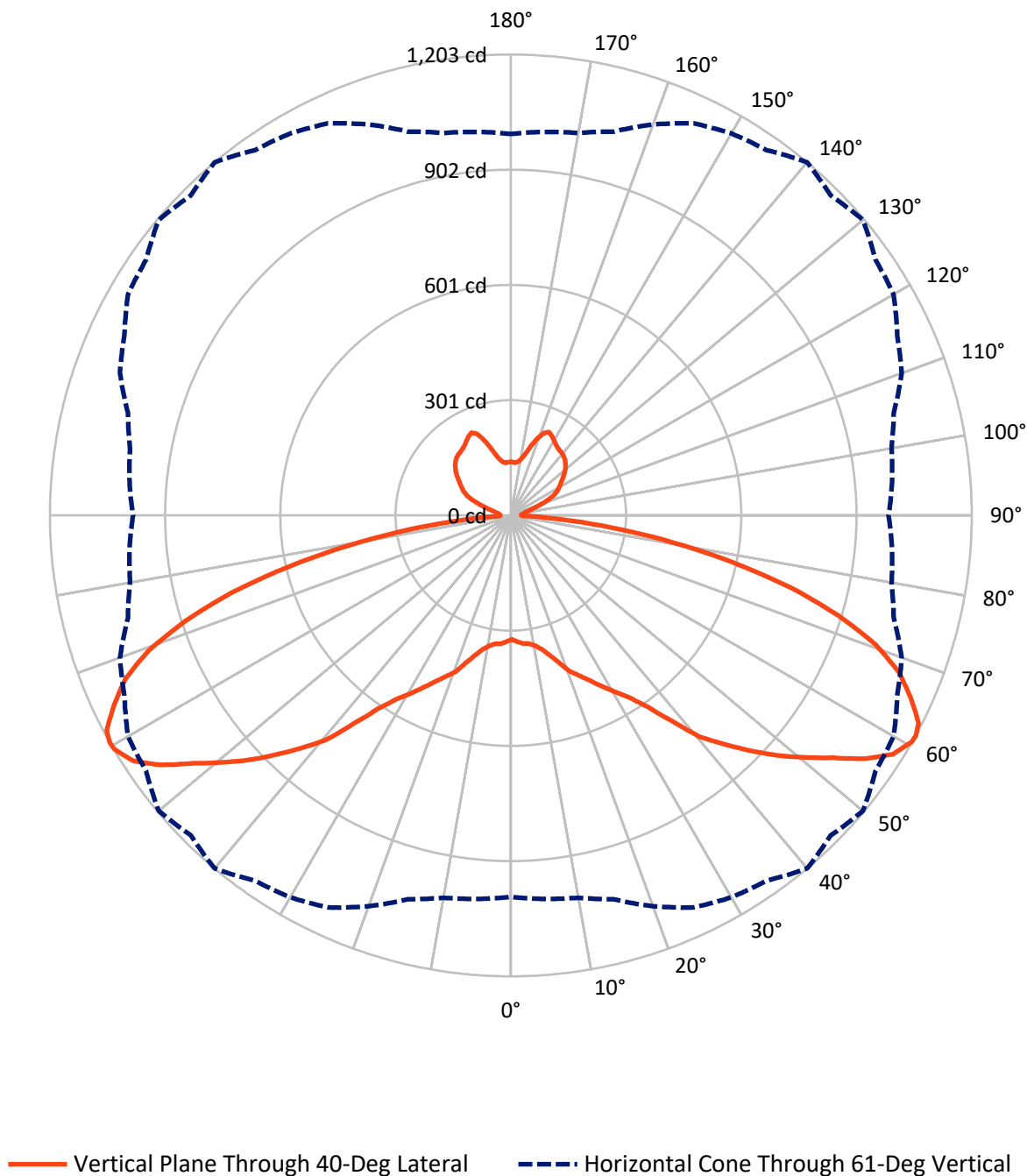


Based on 10 foot mounting height. Maximum calculated value = 3.6 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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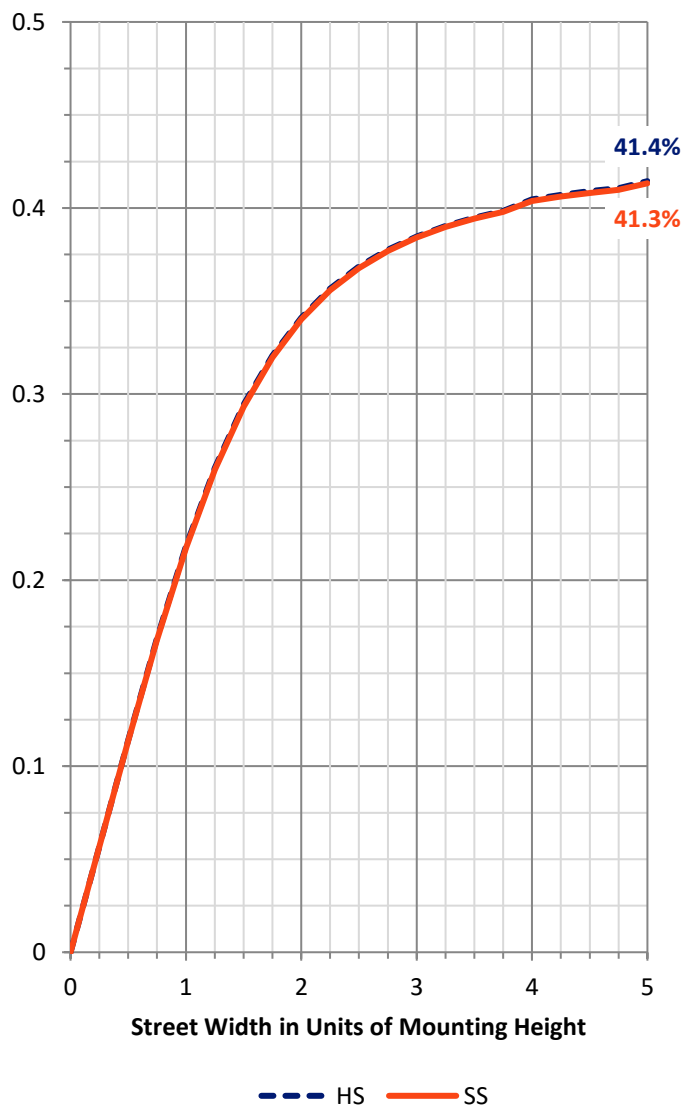
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2105.7	412.0	2517.7
	% Fixture	41.8	8.2	50.0
Street Side	Lumens	2105.7	412.0	2517.7
	% Fixture	41.8	8.2	50.0
Total	Lumens	4211.4	824.0	5035.4
	% Fixture	83.6	16.4	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.2	0.6
10°-20°	108.8	2.2
20°-30°	220.6	4.4
30°-40°	383.7	7.6
40°-50°	645.8	12.8
50°-60°	930.4	18.5
60°-70°	1032.5	20.5
70°-80°	701.2	13.9
80°-90°	156.3	3.1
90°-100°	38.3	0.8
100°-110°	59.4	1.2
110°-120°	119.3	2.4
120°-130°	148.7	3.0
130°-140°	153.2	3.0
140°-150°	136.0	2.7
150°-160°	103.7	2.1
160°-170°	51.8	1.0
170°-180°	13.6	0.3
0°-90°	4211.4	83.6
0°-180°	5035.4	100.0

Coefficient of Utilization



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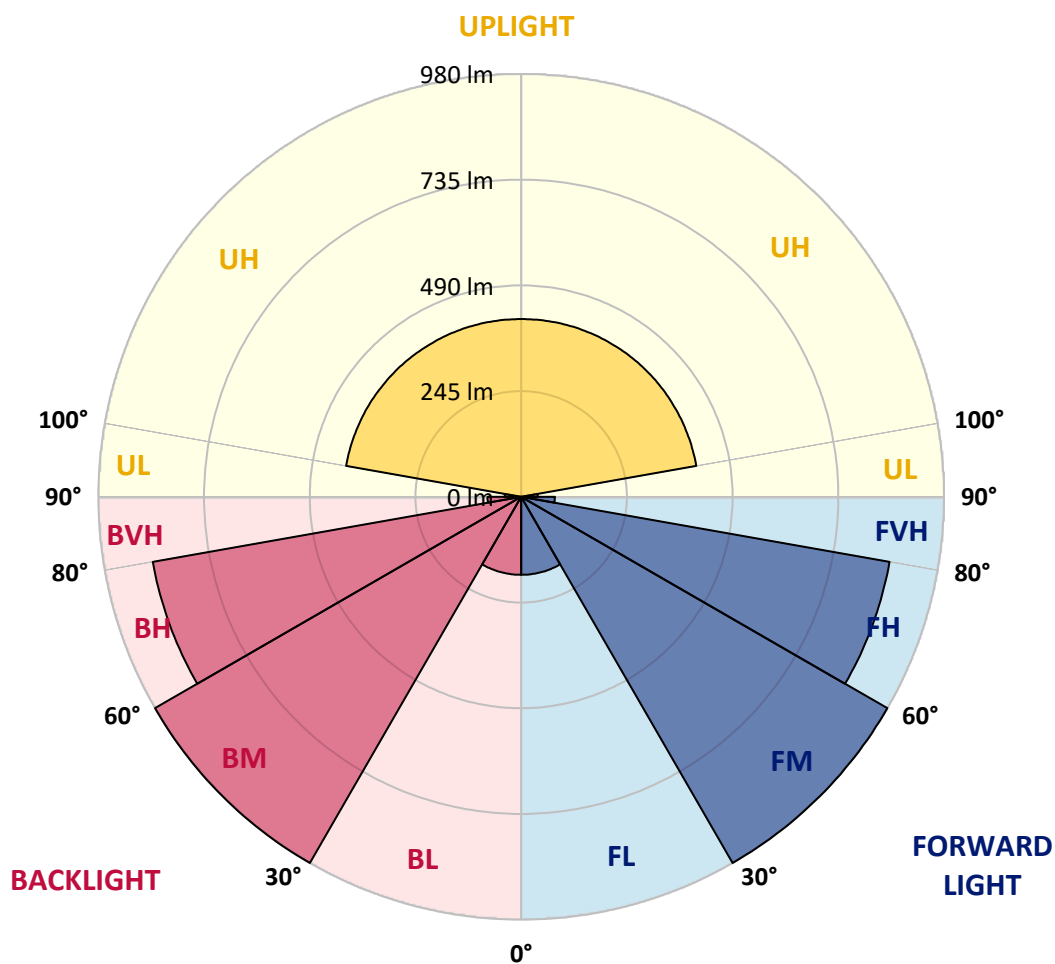
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	180.8	3.6			
FM	(30°-60°)	980.0	19.5			
FH	(60°-80°)	866.8	17.2			G1/1800
FVH	(80°-90°)	78.1	1.6			G1/100
BL	(0°-30°)	180.8	3.6	B1/500		
BM	(30°-60°)	980.0	19.5	B1/1000		
BH	(60°-80°)	866.8	17.2	B2/1000		G1/1800
BVH	(80°-90°)	78.1	1.6			G1/100
UL	(90°-100°)	38.3	0.8		U2/50	
UH	(100°-180°)	412.0	8.2		U3/500	

BUG Rating: B2-U4-G1

Type V Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	323.2	323.2	323.2	323.2	323.2	323.2	323.2	323.2	323.2	323.2	323.2
2.5°	330.9	330.9	330.9	330.9	330.9	330.0	330.9	330.0	330.0	330.0	330.0
5°	333.4	334.3	334.3	334.3	334.3	335.1	335.1	336.0	336.0	336.0	336.0
7.5°	336.0	336.0	336.0	336.0	336.0	336.0	336.8	336.8	337.7	337.7	338.5
10°	346.2	346.2	347.0	347.0	346.2	346.2	346.2	345.3	345.3	344.5	344.5
12.5°	360.6	360.6	361.5	362.3	362.3	361.5	360.6	358.9	358.1	358.1	358.1
15°	371.7	372.5	374.2	375.9	376.8	376.8	377.6	377.6	377.6	376.8	375.9
17.5°	393.0	393.0	393.8	394.7	394.7	395.5	397.2	398.9	402.3	403.2	400.6
20°	423.6	424.4	427.0	426.1	426.1	427.8	429.5	430.4	432.9	434.6	434.6
22.5°	446.5	448.2	451.6	451.6	450.8	451.6	453.3	453.3	453.3	452.5	454.2
25°	464.4	466.1	468.7	468.7	470.4	474.6	479.7	478.9	476.3	476.3	475.5
27.5°	488.2	489.1	490.8	490.8	493.3	495.9	499.3	502.7	504.4	503.5	501.8
30°	518.0	519.7	521.4	518.8	523.1	525.6	527.3	527.3	534.1	537.6	531.6
32.5°	540.1	543.5	546.9	549.5	558.0	562.2	559.7	562.2	565.6	569.0	569.0
35°	576.7	580.1	582.6	584.3	592.8	598.8	605.6	612.4	611.5	609.0	614.1
37.5°	629.4	632.8	635.4	638.8	649.8	654.1	659.2	673.6	678.7	671.9	675.3
40°	685.5	691.5	700.0	710.2	726.4	731.5	740.0	750.2	759.5	762.9	754.4
42.5°	734.0	740.8	742.5	758.7	778.3	793.6	805.5	808.0	816.5	824.2	818.2
45°	785.9	791.9	796.1	809.7	820.8	842.1	861.6	871.0	875.2	874.4	881.2
47.5°	834.4	841.2	847.2	861.6	875.2	893.1	905.8	928.0	935.6	925.4	936.5
50°	864.2	872.7	880.3	907.5	931.4	950.1	960.3	979.0	992.6	985.8	988.3
52.5°	913.5	916.9	922.9	938.2	969.6	1013.0	1023.2	1033.4	1050.4	1058.9	1043.6
55°	976.4	985.8	994.3	1013.9	1030.0	1062.3	1109.1	1121.9	1121.0	1147.4	1123.6
57.5°	990.0	1003.7	1020.7	1056.4	1087.9	1106.6	1136.3	1172.1	1175.5	1177.2	1180.6
60°	991.7	1000.3	1011.3	1041.1	1096.4	1130.4	1147.4	1170.4	1201.0	1178.9	1201.8
61°	995.2	1004.5	1013.0	1036.8	1085.3	1128.7	1150.8	1163.6	1202.7	1180.6	1199.3
62.5°	989.2	1000.3	1013.0	1036.0	1068.3	1112.5	1155.1	1155.1	1194.2	1179.7	1189.9
65°	953.5	963.7	988.3	1018.1	1057.2	1080.2	1124.4	1152.5	1146.5	1172.1	1146.5
67.5°	893.1	901.6	922.9	957.7	1000.3	1032.6	1053.0	1098.1	1092.1	1118.5	1089.6
70°	808.0	819.1	845.5	869.3	909.2	943.3	970.5	997.7	1009.6	1007.1	1008.8
72.5°	706.0	713.6	737.4	763.8	795.3	833.5	858.2	875.2	893.9	893.1	896.5
75°	587.7	594.5	615.0	634.5	665.1	694.9	723.0	740.8	756.1	755.3	751.9
77.5°	453.3	461.0	484.0	501.0	515.4	548.6	569.9	581.8	594.5	594.5	596.2
80°	316.4	321.5	339.4	357.2	370.8	387.0	414.2	416.8	431.2	427.8	431.2
82.5°	190.5	193.9	207.5	217.7	227.1	242.4	255.2	260.3	268.8	265.4	270.5
85°	85.9	87.6	96.1	102.1	106.3	114.8	121.6	124.2	128.4	127.6	131.0
87.5°	17.9	19.6	22.1	23.8	24.7	28.1	30.6	30.6	32.3	32.3	33.2
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

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CATALOG NUMBER: TT-C2-LED-E1-WQ-CG-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

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	323.2	323.2	323.2	323.2	323.2	323.2	323.2	323.2
2.5°	330.0	330.9	330.0	330.0	330.0	330.9	330.0	330.9
5°	336.0	336.0	336.0	335.1	334.3	334.3	334.3	333.4
7.5°	339.4	339.4	338.5	337.7	336.8	337.7	337.7	337.7
10°	346.2	347.9	348.7	348.7	347.9	347.9	347.9	347.0
12.5°	358.1	358.9	361.5	362.3	363.2	362.3	359.8	358.9
15°	374.2	374.2	375.1	376.8	376.8	373.4	370.8	370.0
17.5°	397.2	396.4	394.7	394.7	395.5	393.8	391.3	391.3
20°	432.1	428.7	427.0	424.4	427.0	427.0	421.9	419.3
22.5°	456.7	453.3	449.1	446.5	449.9	452.5	446.5	443.1
25°	478.0	478.9	472.1	468.7	469.5	471.2	463.6	462.7
27.5°	500.1	501.8	498.4	492.5	490.8	494.2	488.2	486.5
30°	527.3	526.5	528.2	520.5	517.1	519.7	518.8	514.6
32.5°	563.1	558.8	560.5	553.7	546.9	546.9	541.8	536.7
35°	612.4	603.0	598.8	594.5	581.8	582.6	578.4	574.1
37.5°	677.0	662.6	650.7	653.2	634.5	632.8	630.3	624.3
40°	751.0	744.2	730.6	723.0	703.4	694.1	690.7	679.6
42.5°	806.3	808.0	787.6	774.0	758.7	742.5	740.8	729.8
45°	865.9	859.9	841.2	819.1	812.3	792.7	790.2	779.1
47.5°	925.4	905.0	893.9	871.0	859.9	835.2	836.9	826.7
50°	981.5	957.7	947.5	920.3	903.3	878.6	872.7	855.7
52.5°	1041.1	1019.0	1002.8	967.9	943.3	924.6	914.3	907.5
55°	1121.0	1098.9	1062.3	1030.0	1009.6	979.0	975.6	963.7
57.5°	1158.5	1142.3	1102.3	1079.4	1042.8	1011.3	1001.1	977.3
60°	1162.7	1155.9	1113.4	1091.3	1037.7	1012.2	999.4	984.9
61°	1161.9	1153.4	1112.5	1085.3	1034.3	1008.8	998.6	985.8
62.5°	1158.5	1148.3	1103.2	1075.1	1027.5	1002.8	994.3	975.6
65°	1147.4	1119.3	1080.2	1054.7	1002.8	980.7	960.3	941.6
67.5°	1098.9	1046.2	1030.0	997.7	945.0	920.3	901.6	885.4
70°	995.2	960.3	943.3	903.3	860.8	840.3	819.1	798.7
72.5°	873.5	850.6	836.1	787.6	756.1	735.7	716.2	696.6
75°	737.4	720.4	694.1	657.5	629.4	609.0	591.1	581.8
77.5°	579.2	568.2	547.8	511.2	495.9	478.0	460.2	445.7
80°	416.8	408.3	392.1	365.7	353.0	335.1	322.4	310.5
82.5°	259.4	252.6	243.3	223.7	218.6	207.5	195.6	187.1
85°	124.2	119.9	116.5	103.8	102.9	93.6	89.3	84.2
87.5°	32.3	31.5	29.8	25.5	24.7	22.1	20.4	17.9
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

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CATALOG NUMBER: TT-C2-LED-E1-WQ-CG-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)