

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: P198346

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P198346  
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-LWR-LW-UPL  
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT  
WIDE DISTRIBUTION WITH CLEAR GLASS LENS AND LumaWatt WIRELESS SENSOR  
Light Source: (168) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4671 lumens  
Efficiency: N/A  
Efficacy: 90.9 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')  
IES Classification: Type V - Short - Non-Cutoff  
BUG Rating: B2 - U4 - G1

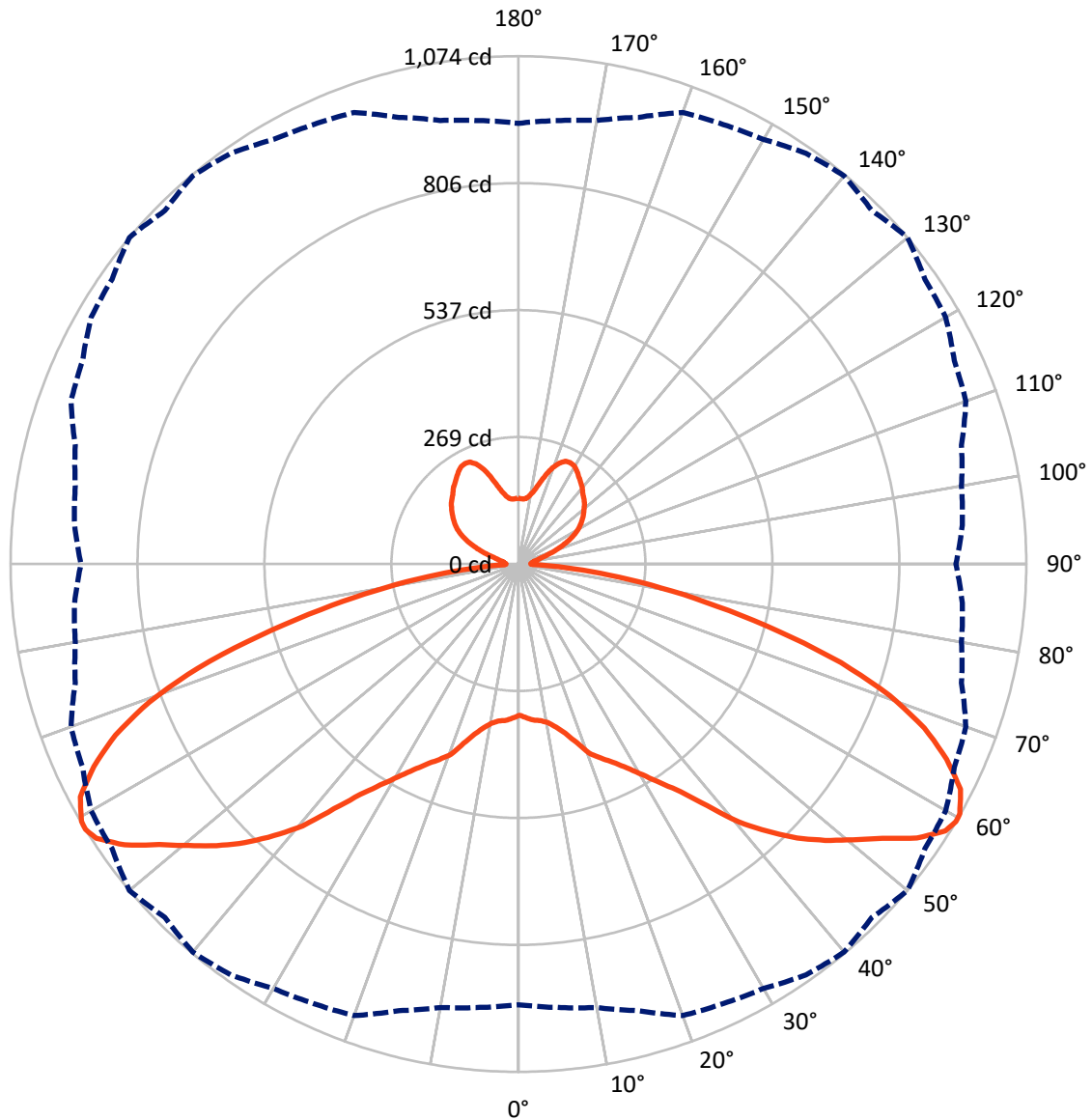
Input Watts (W): 51.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT





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### Luminous Intensity Polar Plot



— Vertical Plane Through 50-Deg Lateral    - - - Horizontal Cone Through 59-Deg Vertical

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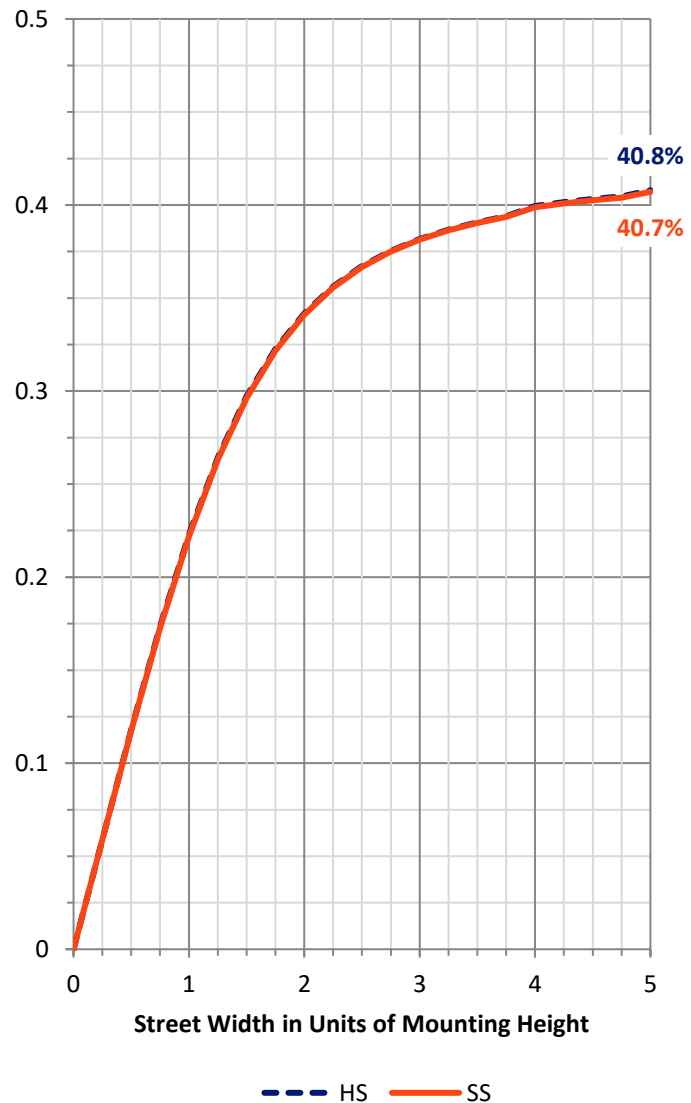
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1923.5	412.0	2335.5
	% Fixture	41.2	8.8	50.0
<b>Street Side</b>	Lumens	1923.5	412.0	2335.5
	% Fixture	41.2	8.8	50.0
<b>Total</b>	Lumens	3847.1	824.0	4671.0
	% Fixture	82.4	17.6	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.8	0.7
10°-20°	107.3	2.3
20°-30°	216.0	4.6
30°-40°	371.7	8.0
40°-50°	613.6	13.1
50°-60°	864.0	18.5
60°-70°	924.3	19.8
70°-80°	587.1	12.6
80°-90°	131.3	2.8
90°-100°	38.3	0.8
100°-110°	59.4	1.3
110°-120°	119.3	2.6
120°-130°	148.7	3.2
130°-140°	153.2	3.3
140°-150°	136.0	2.9
150°-160°	103.7	2.2
160°-170°	51.8	1.1
170°-180°	13.6	0.3
0°-90°	3847.1	82.4
0°-180°	4671.0	100.0



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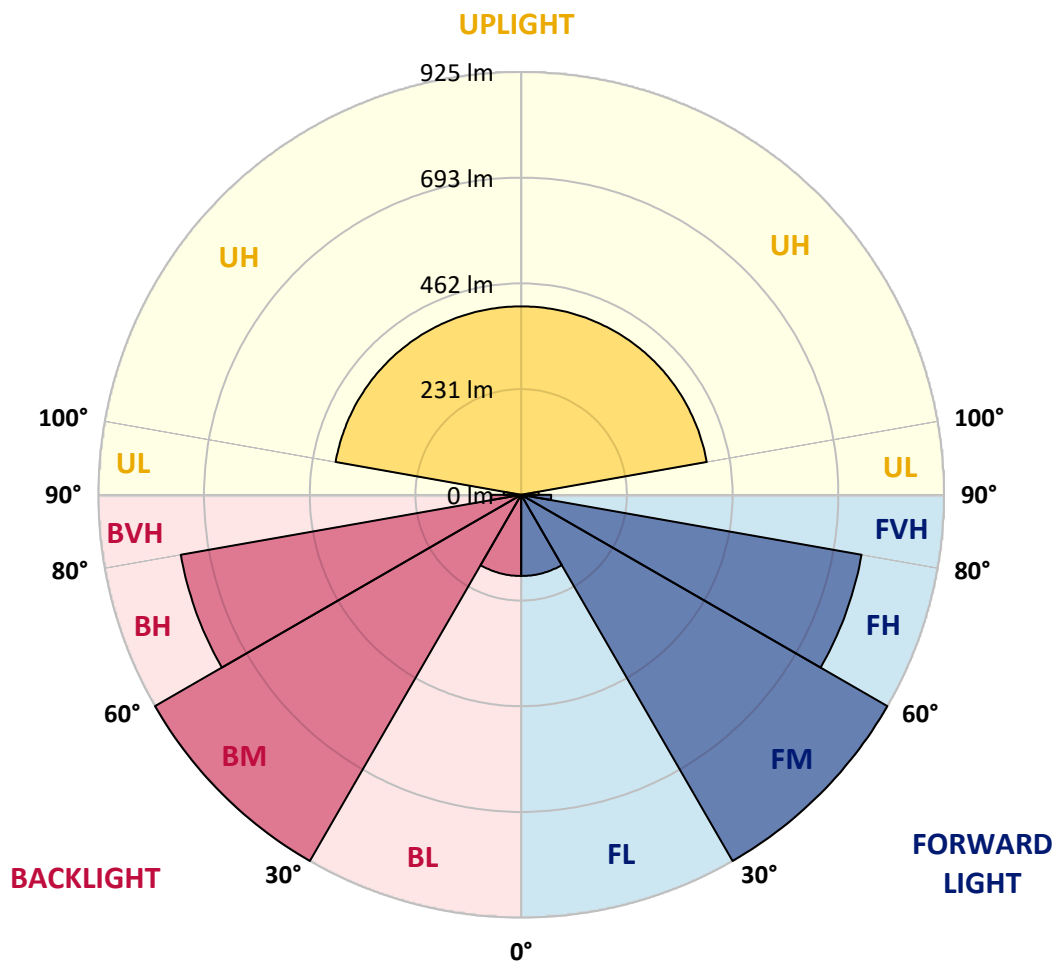
CATALOG NUMBER: TT-C2-LED-E1-WQ-CG-LWR-LW-UPL

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	177.5	3.8			
FM (30°-60°)	924.6	19.8			
FH (60°-80°)	755.7	16.2			G1/1800
FVH (80°-90°)	65.6	1.4			G1/100
BL (0°-30°)	177.5	3.8	B1/500		
BM (30°-60°)	924.6	19.8	B1/1000		
BH (60°-80°)	755.7	16.2	B2/1000		G1/1800
BVH (80°-90°)	65.6	1.4			G1/100
UL (90°-100°)	38.3	0.8		U2/50	
UH (100°-180°)	412.0	8.8		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°	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8
2.5°	326.6	325.8	325.8	325.8	325.8	325.8	325.8	325.8	325.8	325.8	325.8
5°	328.3	328.3	329.2	329.2	330.0	330.0	330.0	330.9	330.9	330.9	331.7
7.5°	331.7	330.9	331.7	331.7	331.7	332.6	332.6	332.6	333.4	334.3	334.3
10°	342.8	341.9	342.8	342.8	342.8	341.1	341.1	341.9	341.1	341.1	341.1
12.5°	355.5	355.5	356.4	357.2	357.2	356.4	355.5	354.7	353.8	353.8	353.8
15°	367.4	368.3	369.1	370.8	371.7	371.7	372.5	373.4	372.5	372.5	371.7
17.5°	386.2	387.9	388.7	389.6	389.6	389.6	391.3	393.8	396.4	398.1	396.4
20°	417.6	418.5	420.2	420.2	419.3	420.2	421.9	422.7	424.4	426.1	427.0
22.5°	438.9	440.6	443.1	443.1	442.3	443.1	444.8	444.8	443.1	444.0	445.7
25°	456.7	457.6	459.3	460.2	461.0	465.3	468.7	467.8	464.4	465.3	464.4
27.5°	478.0	479.7	481.4	481.4	481.4	484.0	487.4	489.1	491.6	490.8	488.2
30°	506.1	508.6	509.5	508.6	510.3	512.9	512.0	513.7	518.0	522.2	517.1
32.5°	528.2	530.7	533.3	536.7	542.7	546.1	544.4	545.2	547.8	551.2	551.2
35°	561.4	565.6	567.3	568.2	574.1	580.9	586.0	590.3	589.4	586.9	591.1
37.5°	611.5	615.8	617.5	620.9	628.6	630.3	637.9	648.1	651.5	648.1	648.1
40°	665.1	669.4	677.9	685.5	697.5	700.0	709.4	713.6	722.1	723.0	717.9
42.5°	709.4	714.5	716.2	728.9	745.1	757.0	767.2	768.1	774.0	779.1	773.2
45°	757.0	761.2	763.8	775.7	784.2	798.7	814.8	821.6	824.2	823.3	826.7
47.5°	801.2	807.2	809.7	819.1	829.3	841.2	850.6	870.1	874.4	865.9	873.5
50°	828.4	835.2	841.2	861.6	879.5	888.8	896.5	912.6	922.0	914.3	916.9
52.5°	871.0	872.7	877.8	886.3	912.6	944.1	952.6	957.7	971.3	975.6	963.7
55°	928.8	934.8	939.0	950.1	961.1	983.2	1020.7	1027.5	1024.1	1044.5	1023.2
57.5°	937.3	948.4	961.1	985.8	1007.9	1014.7	1036.8	1063.2	1060.6	1063.2	1064.9
59°	932.2	941.6	952.6	978.1	1016.4	1025.8	1036.8	1060.6	1071.7	1057.2	1074.3
60°	933.9	940.7	946.7	967.1	1007.9	1029.2	1036.0	1050.4	1071.7	1052.1	1072.6
62.5°	927.1	935.6	942.4	954.3	973.9	1003.7	1030.0	1023.2	1053.8	1038.5	1049.6
65°	890.5	899.9	913.5	930.5	953.5	962.0	988.3	1002.8	996.0	1013.0	995.2
67.5°	829.3	837.8	846.3	866.7	892.2	903.3	910.1	936.5	927.1	946.7	926.3
70°	747.6	757.0	768.9	780.0	802.9	812.3	819.9	831.8	835.2	835.2	833.5
72.5°	649.8	657.5	665.1	676.2	689.8	698.3	701.7	704.3	717.9	712.8	713.6
75°	539.3	546.9	550.3	554.6	563.9	563.1	566.5	564.8	573.3	569.9	568.2
77.5°	421.9	424.4	433.8	433.8	431.2	435.5	431.2	428.7	427.0	428.7	428.7
80°	292.6	300.2	306.2	310.5	312.2	310.5	311.3	307.9	307.9	305.3	306.2
82.5°	180.3	188.0	190.5	194.8	195.6	195.6	195.6	193.1	193.9	191.4	193.1
85°	88.5	88.5	91.9	96.1	97.0	98.7	98.7	98.7	98.7	98.7	99.5
87.5°	22.1	22.1	23.8	26.4	26.4	27.2	28.1	28.9	28.9	29.8	29.8
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



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CATALOG NUMBER: TT-C2-LED-E1-WQ-CG-LWR-LW-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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CATALOG NUMBER: TT-C2-LED-E1-WQ-CG-LWR-LW-UPL

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8
2.5°	325.8	325.8	325.8	325.8	325.8	325.8	325.8	325.8
5°	331.7	330.9	330.9	330.0	330.0	329.2	329.2	329.2
7.5°	335.1	335.1	334.3	333.4	332.6	332.6	333.4	333.4
10°	341.9	343.6	344.5	344.5	343.6	343.6	342.8	342.8
12.5°	353.0	354.7	356.4	358.1	358.1	357.2	355.5	354.7
15°	370.0	370.0	370.8	371.7	371.7	370.0	366.6	366.6
17.5°	393.0	391.3	388.7	389.6	390.4	389.6	386.2	387.9
20°	424.4	421.0	419.3	417.6	421.0	421.0	415.9	415.9
22.5°	447.4	444.8	440.6	439.7	442.3	444.0	439.7	437.2
25°	467.0	467.8	462.7	460.2	461.0	461.9	455.9	456.7
27.5°	488.2	489.1	486.5	482.3	480.6	483.1	478.9	477.2
30°	513.7	512.9	514.6	509.5	505.2	507.8	507.8	503.5
32.5°	546.9	544.4	545.2	539.3	534.1	533.3	529.9	524.8
35°	592.0	585.2	580.1	576.7	567.3	565.6	565.6	559.7
37.5°	650.7	640.5	631.1	631.1	616.7	612.4	615.0	607.3
40°	716.2	712.8	698.3	695.8	680.4	670.2	670.2	660.9
42.5°	763.8	768.1	751.0	740.8	730.6	714.5	716.2	704.3
45°	815.7	813.1	798.7	780.8	777.4	760.4	762.1	750.2
47.5°	865.0	849.7	842.9	825.0	817.4	797.8	803.8	794.4
50°	912.6	895.6	888.8	867.6	857.4	836.1	836.9	819.9
52.5°	962.0	946.7	936.5	909.2	891.4	876.1	872.7	865.0
55°	1025.8	1009.6	984.9	959.4	945.8	923.7	926.3	914.3
57.5°	1050.4	1040.2	1013.9	998.6	973.0	950.9	945.8	924.6
59°	1049.6	1043.6	1017.3	1007.1	970.5	951.8	942.4	925.4
60°	1043.6	1041.9	1015.6	1002.8	964.5	947.5	939.0	928.0
62.5°	1025.8	1024.9	995.2	979.8	948.4	934.8	929.7	915.2
65°	999.4	984.9	962.0	951.8	919.5	909.2	894.8	880.3
67.5°	936.5	904.1	900.7	888.0	859.9	847.2	837.8	824.2
70°	832.7	811.4	811.4	795.3	775.7	769.8	757.0	741.7
72.5°	703.4	698.3	700.9	682.1	672.8	669.4	658.3	644.7
75°	562.2	563.1	560.5	556.3	553.7	554.6	542.7	536.7
77.5°	426.1	433.8	432.1	426.1	432.1	431.2	421.0	418.5
80°	303.6	307.1	308.8	305.3	308.8	306.2	297.7	296.8
82.5°	191.4	192.2	193.9	190.5	191.4	190.5	184.6	184.6
85°	97.8	101.2	97.0	93.6	93.6	90.2	88.5	89.3
87.5°	28.9	30.6	27.2	27.2	25.5	23.8	23.0	23.0
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-LWR-LW-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)