

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: INVUE

Report Number: P141236

Luminaire Tested: **ECM-F02-LED-E1-SL4-7050**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P141236  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33692)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ECM-F02-LED-E1-SL4-7050  
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE  
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL  
Light Source: (14) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4783.4 lumens  
Efficiency: N/A  
Efficacy: 87.0 lumens/watt  
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G2

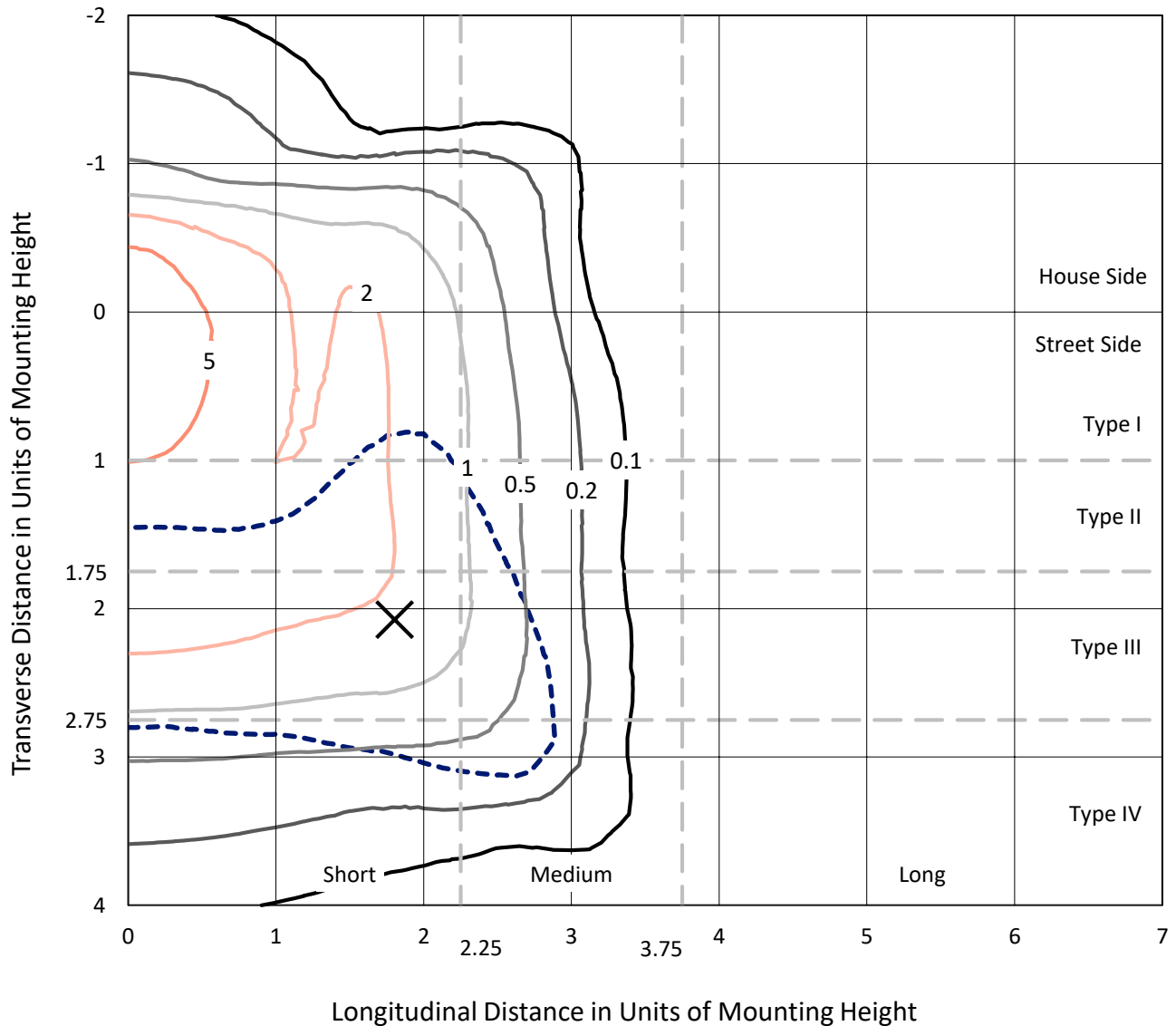
Input Watts (W): 55  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

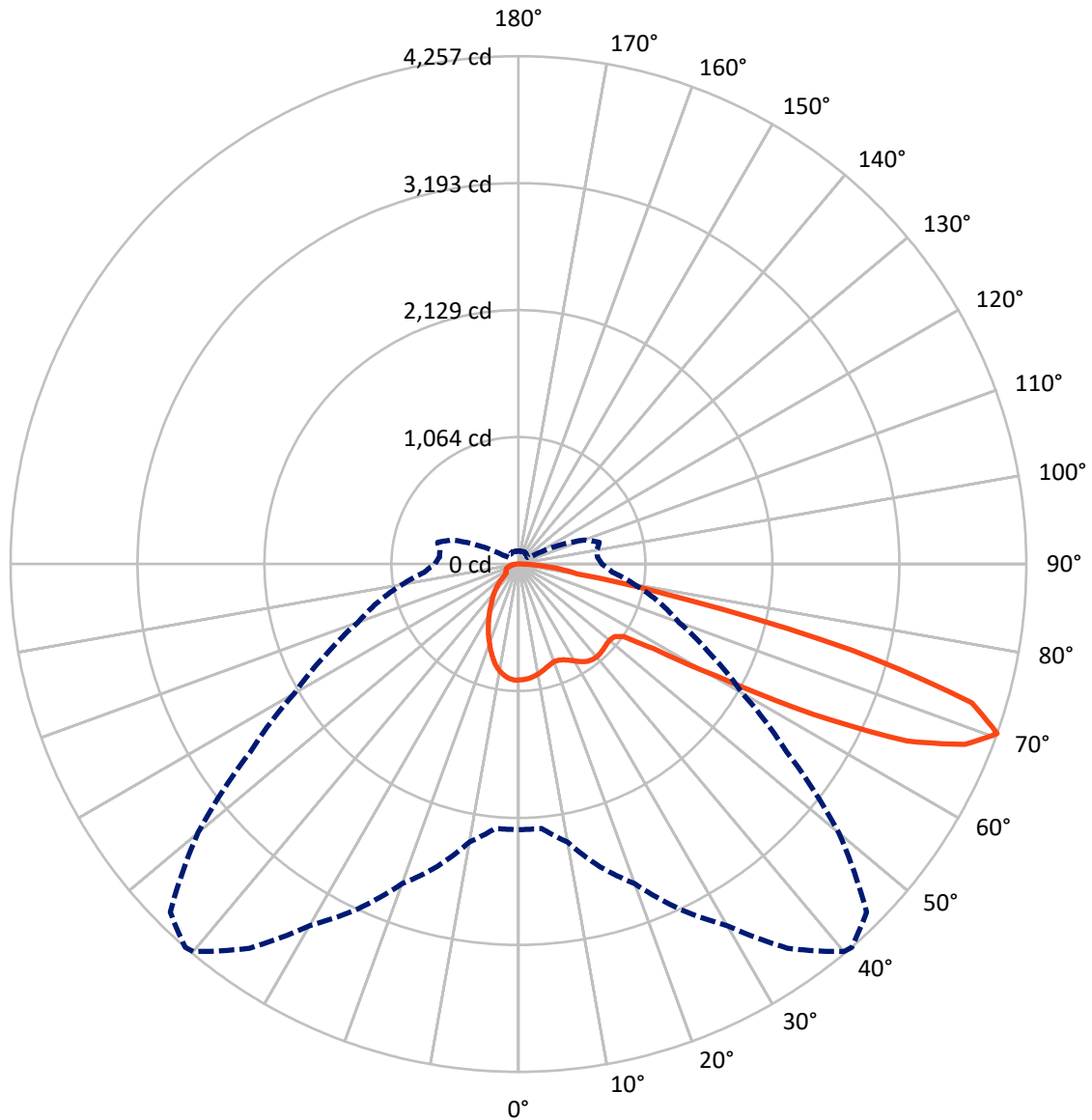
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.7 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 41-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1026.3	0.0	1026.3
	% Fixture	21.5	0.0	21.5
<b>Street Side</b>	Lumens	3757.1	0.0	3757.1
	% Fixture	78.5	0.0	78.5
<b>Total</b>	Lumens	4783.4	0.0	4783.4
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.4	1.9
10°-20°	242.4	5.1
20°-30°	350.5	7.3
30°-40°	446.1	9.3
40°-50°	525.6	11.0
50°-60°	804.3	16.8
60°-70°	1494.9	31.3
70°-80°	721.5	15.1
80°-90°	107.8	2.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	4783.4	100.0
0°-180°	4783.4	100.0



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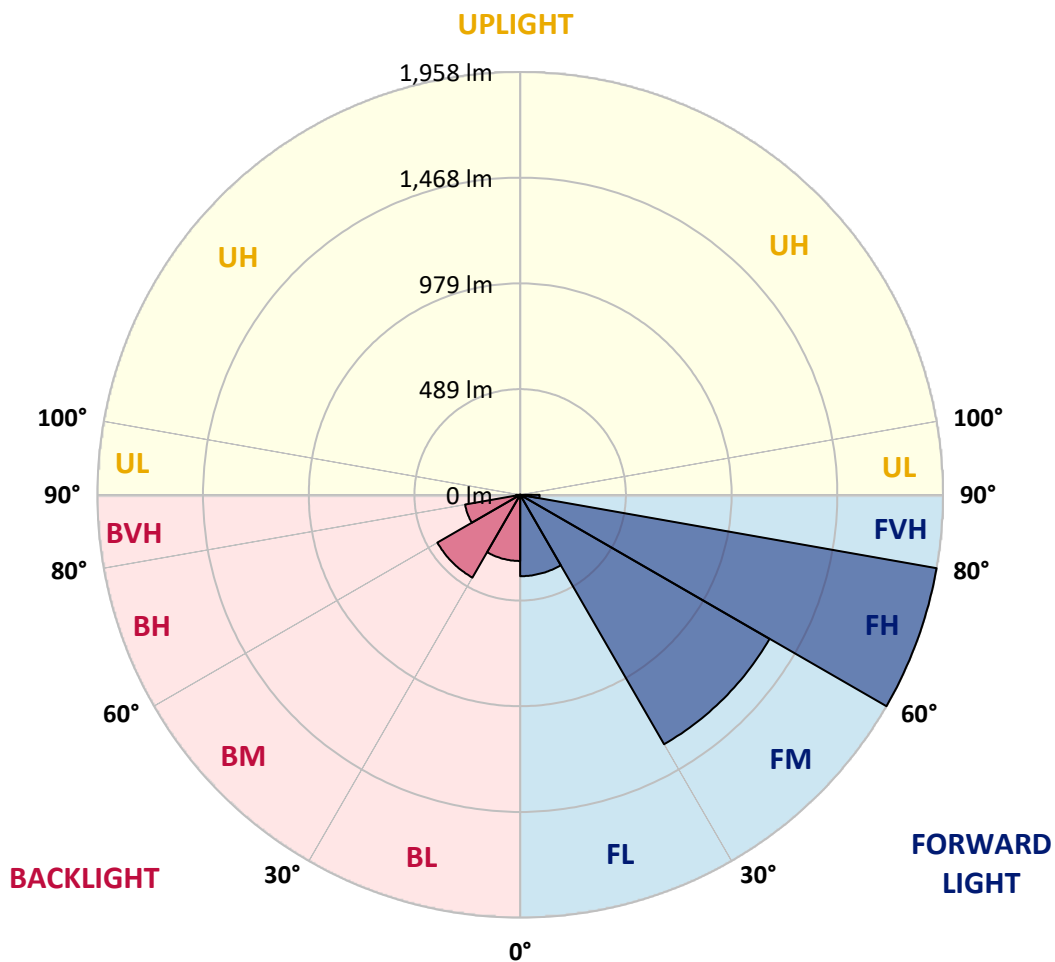
CATALOG NUMBER: ECM-F02-LED-E1-SL4-7050

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	376.7	7.9			
FM (30°-60°)	1333.2	27.9			
FH (60°-80°)	1957.6	40.9			G2/5000
FVH (80°-90°)	89.6	1.9			G1/100
BL (0°-30°)	306.6	6.4	B1/500		
BM (30°-60°)	442.8	9.3	B1/1000		
BH (60°-80°)	258.8	5.4	B1/500		G1/500
BVH (80°-90°)	18.2	0.4			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	41°	45°
0°	971.9	971.9	971.9	971.9	971.9	971.9	971.9	971.9	971.9	971.9	971.9
2.5°	971.9	973.0	972.4	971.3	970.2	970.7	970.2	969.6	969.6	969.1	968.5
5°	967.4	969.6	967.9	966.8	965.1	965.1	964.5	963.4	962.3	961.7	960.6
7.5°	957.8	960.0	958.9	957.8	956.1	954.9	952.7	951.5	950.4	949.9	948.2
10°	944.8	945.9	944.8	942.5	941.4	940.8	939.7	937.4	935.2	934.0	932.3
12.5°	927.8	928.4	927.3	926.1	924.4	924.4	922.7	921.1	917.7	916.5	912.6
15°	913.1	911.5	910.3	909.8	909.2	906.4	906.9	904.1	898.5	896.8	892.3
17.5°	909.2	907.5	906.9	905.2	904.1	900.7	897.3	891.7	882.1	880.4	873.6
20°	920.5	920.5	918.8	917.7	916.0	909.8	902.4	891.7	874.2	870.2	861.8
22.5°	947.6	944.8	943.6	943.6	943.1	934.0	920.5	903.5	880.4	875.3	860.6
25°	989.9	984.9	986.6	986.0	984.9	971.9	952.1	927.8	896.2	889.4	870.2
27.5°	1040.2	1041.3	1040.8	1038.5	1035.1	1021.0	992.8	960.0	920.5	913.7	888.9
30°	1092.7	1093.9	1097.2	1095.6	1093.3	1071.8	1036.8	1001.2	953.2	944.2	913.7
32.5°	1153.7	1157.7	1160.5	1161.1	1152.0	1122.7	1081.4	1036.3	985.4	976.4	938.6
35°	1224.3	1222.0	1227.1	1224.9	1209.1	1169.0	1118.1	1064.5	1012.5	1000.7	960.0
37.5°	1295.5	1298.3	1293.2	1283.6	1258.8	1206.2	1143.6	1083.1	1025.5	1014.2	971.9
40°	1364.4	1362.7	1350.8	1334.4	1297.2	1230.0	1157.7	1091.6	1030.0	1018.2	974.7
42.5°	1415.7	1411.2	1393.2	1366.6	1318.6	1241.2	1161.6	1091.6	1027.2	1014.8	970.7
45°	1438.3	1433.8	1416.3	1382.4	1325.4	1239.0	1154.8	1082.0	1017.6	1006.9	962.8
47.5°	1438.3	1436.6	1417.4	1384.7	1323.7	1232.8	1144.7	1070.1	1008.0	997.3	956.1
50°	1427.0	1425.9	1409.0	1376.8	1318.0	1229.4	1141.9	1067.9	1007.5	996.7	958.9
52.5°	1464.9	1457.5	1440.0	1402.8	1338.9	1243.5	1156.0	1079.2	1021.0	1010.3	971.3
55°	1925.1	1918.9	1830.2	1674.4	1511.2	1362.1	1234.5	1146.4	1087.6	1071.3	1043.0
57.5°	2669.4	2660.4	2569.5	2427.7	2147.1	1828.0	1577.8	1431.0	1348.5	1336.7	1319.7
60°	2971.5	2968.2	2929.8	2872.2	2766.0	2601.1	2368.4	2124.5	1934.7	1904.2	1906.5
62.5°	3144.9	3136.4	3117.8	3103.7	3067.5	3000.3	2956.9	2888.5	2796.5	2775.6	2643.4
65°	3242.0	3240.9	3251.1	3262.9	3260.7	3281.0	3303.0	3433.5	3586.5	3579.7	3440.3
67.5°	3097.5	3107.1	3160.2	3241.5	3326.7	3417.1	3585.4	3846.9	4036.0	4036.0	3913.5
70°	2226.7	2225.0	2366.2	2623.7	2853.0	3190.7	3500.7	3931.6	4241.0	4257.4	4127.5
72.5°	1334.4	1365.5	1452.5	1569.3	1764.2	2173.0	2749.6	3523.8	3955.8	3973.3	3818.1
75°	937.4	914.3	910.9	917.7	951.0	1051.5	1368.9	2162.9	2867.6	2894.7	2744.5
77.5°	599.7	594.6	596.9	604.2	605.9	615.5	630.8	741.5	1329.3	1459.2	1452.5
80°	517.3	515.6	516.2	507.7	491.3	485.1	504.3	489.0	474.9	494.7	467.6
82.5°	346.7	352.9	363.1	376.7	409.4	420.7	414.5	411.7	367.1	356.9	316.8
85°	256.9	253.6	257.5	257.5	249.0	240.6	246.8	240.6	212.9	199.3	176.2
87.5°	138.9	139.5	150.8	155.3	154.7	132.1	109.0	94.3	85.3	79.1	66.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	971.9	971.9	971.9	971.9	971.9	971.9	971.9	971.9	971.9	971.9	971.9
2.5°	969.1	967.4	967.9	967.9	967.4	968.5	966.8	966.2	966.8	966.8	966.8
5°	959.5	957.2	957.2	956.6	955.5	955.5	953.2	952.7	951.5	953.2	952.1
7.5°	945.9	942.5	939.7	937.4	936.3	934.6	931.8	930.7	929.5	929.0	927.8
10°	929.5	925.6	919.9	915.4	913.1	908.6	905.2	900.7	900.7	898.5	896.2
12.5°	909.8	904.1	898.5	892.3	888.3	882.1	876.4	871.4	867.4	862.3	858.9
15°	890.0	881.5	875.3	869.1	861.8	853.3	846.5	838.6	831.3	823.4	821.1
17.5°	868.5	861.8	856.1	848.8	840.9	830.7	821.7	808.7	799.6	790.0	782.7
20°	854.4	846.5	840.3	833.5	825.1	813.2	801.3	786.7	773.1	759.0	748.3
22.5°	847.1	834.1	828.4	822.2	813.8	800.8	787.2	769.1	752.2	733.6	716.6
25°	849.9	832.4	821.1	814.3	807.0	794.0	776.5	756.2	737.0	713.2	694.0
27.5°	862.3	838.6	821.1	809.8	801.9	788.3	770.3	747.1	724.0	699.1	676.0
30°	878.7	848.8	826.2	809.8	797.9	783.3	763.5	738.6	713.2	685.6	659.0
32.5°	897.3	860.6	833.5	810.9	791.7	773.1	752.8	726.8	700.2	670.9	644.9
35°	912.0	869.7	838.6	808.7	783.3	760.1	736.4	712.1	685.6	657.9	630.2
37.5°	920.5	875.3	838.6	800.8	769.7	745.4	720.6	696.9	671.4	644.3	620.1
40°	923.9	877.6	835.2	791.7	755.6	727.9	704.8	680.5	657.9	634.2	612.7
42.5°	922.2	875.9	830.7	783.3	744.3	714.4	689.0	666.4	647.7	628.0	609.9
45°	915.4	870.2	826.2	779.3	740.3	709.8	683.9	662.4	644.9	626.8	612.7
47.5°	909.8	868.0	829.0	788.9	751.6	720.6	692.3	668.6	653.9	639.8	630.8
50°	914.3	874.2	835.2	797.4	761.2	729.6	700.8	678.8	670.3	668.1	665.2
52.5°	926.7	887.2	854.4	827.9	811.5	799.6	770.3	765.2	757.9	753.9	744.3
55°	1007.5	991.1	1020.4	1052.6	1058.3	1093.9	1108.0	1109.1	1096.7	1052.6	949.9
57.5°	1336.1	1376.8	1389.2	1463.7	1484.1	1468.3	1446.8	1445.7	1407.3	1349.1	1199.5
60°	1923.4	1902.0	1875.4	1826.9	1781.1	1732.0	1664.2	1612.3	1563.1	1473.9	1316.4
62.5°	2537.8	2350.9	2214.8	2075.3	1962.4	1863.6	1765.3	1681.7	1602.1	1478.4	1309.6
65°	3070.9	2690.3	2414.2	2204.7	2029.6	1885.0	1754.6	1640.5	1540.0	1385.3	1214.1
67.5°	3417.7	2870.5	2457.6	2144.8	1897.4	1713.4	1521.3	1341.2	1242.4	1117.6	1030.6
70°	3506.3	2743.4	2167.4	1766.4	1433.3	1213.6	987.1	790.6	699.7	664.7	667.5
72.5°	3163.0	2168.5	1536.6	1123.8	879.8	697.4	567.0	436.0	340.5	285.7	279.0
75°	2066.3	1206.8	729.6	508.2	404.3	321.9	253.6	213.5	184.1	148.5	124.2
77.5°	781.0	459.7	327.5	267.1	197.7	137.8	107.3	90.4	83.0	80.8	72.8
80°	400.4	319.1	228.1	150.2	105.0	84.1	70.6	59.9	55.3	53.1	54.2
82.5°	269.9	201.0	125.9	90.4	72.8	62.7	49.7	41.8	37.3	36.7	39.5
85°	150.2	100.5	73.4	61.0	53.6	46.9	37.8	31.1	28.8	30.5	35.6
87.5°	46.9	46.3	33.3	27.1	28.2	24.3	18.1	13.6	13.6	17.5	24.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





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**CANDELA DISTRIBUTION (continued):**

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	971.9	971.9	971.9	971.9	971.9	971.9	971.9	971.9	971.9	971.9	971.9
2.5°	966.8	967.9	970.2	968.5	969.1	969.6	971.3	973.6	971.9	970.7	974.1
5°	953.2	953.2	956.1	954.9	957.2	959.5	960.6	964.5	963.4	962.3	966.8
7.5°	928.4	929.0	932.9	931.8	936.3	936.9	941.4	944.8	944.8	947.0	951.0
10°	896.8	896.8	900.2	900.7	903.5	905.8	910.9	917.1	918.2	922.2	927.8
12.5°	861.2	860.1	862.9	862.9	865.1	868.0	873.6	881.0	882.1	888.3	895.6
15°	817.1	815.5	814.3	815.5	816.6	817.1	825.6	833.0	837.5	844.3	851.6
17.5°	774.8	768.6	765.8	765.8	766.3	766.3	769.7	778.2	784.4	795.1	805.9
20°	737.0	726.2	722.3	713.2	711.5	707.6	710.4	720.0	731.3	739.8	748.3
22.5°	701.4	690.1	678.8	668.1	659.6	654.5	659.6	665.8	669.8	676.5	678.8
25°	674.3	655.6	639.8	622.9	613.8	609.3	608.8	608.2	604.8	603.7	603.7
27.5°	652.8	630.8	607.1	588.4	576.0	567.5	557.9	551.2	542.7	531.4	525.8
30°	634.7	611.0	585.0	563.0	547.2	530.8	511.1	495.8	480.6	467.0	455.2
32.5°	618.4	594.1	568.7	545.5	518.4	490.2	465.3	447.3	420.7	402.6	387.4
35°	605.9	581.7	557.9	527.4	490.2	454.0	421.8	395.3	368.2	344.5	324.1
37.5°	596.9	576.6	551.2	509.9	463.1	419.6	385.7	354.1	321.9	289.7	264.3
40°	594.1	576.6	544.4	490.7	437.1	390.2	351.3	312.3	276.7	242.3	216.3
42.5°	595.8	577.1	533.7	473.8	415.6	364.8	320.8	275.6	233.2	196.5	170.5
45°	602.0	577.1	522.4	455.2	395.9	341.7	289.1	235.5	186.4	157.0	145.7
47.5°	620.6	581.1	513.3	441.6	378.4	316.2	253.6	192.6	150.8	138.4	138.4
50°	649.4	593.0	512.2	431.4	358.6	286.9	209.5	151.9	133.3	132.7	136.1
52.5°	698.6	613.8	517.8	424.7	337.7	247.3	163.2	131.0	127.1	130.4	135.5
55°	794.0	650.6	525.8	412.2	302.7	193.7	133.8	124.2	125.9	129.9	134.4
57.5°	968.5	724.5	534.2	385.7	245.1	146.8	121.4	122.0	124.8	128.8	132.7
60°	1088.8	816.0	551.2	341.1	182.4	121.4	116.3	120.8	124.2	127.1	130.4
62.5°	1098.9	849.3	563.6	290.8	135.5	110.7	111.8	118.6	123.1	124.2	125.9
65°	1037.9	806.4	528.0	240.0	112.4	105.0	109.0	115.2	119.7	120.3	122.0
67.5°	904.7	716.6	450.6	182.4	102.8	101.1	105.6	109.6	112.9	115.8	118.0
70°	700.8	585.0	362.5	141.7	95.4	94.9	98.8	103.3	106.7	109.6	112.9
72.5°	369.3	415.6	269.9	113.5	87.5	88.1	92.0	96.0	98.3	101.1	104.5
75°	114.6	176.2	166.6	90.9	77.9	80.2	82.4	85.8	89.8	91.5	93.2
77.5°	67.8	71.7	87.0	71.2	67.8	69.5	72.3	75.1	77.9	80.2	81.9
80°	54.8	55.9	56.5	56.5	56.5	58.7	61.0	64.9	67.2	68.3	68.9
82.5°	42.9	45.7	46.3	45.2	46.9	49.1	50.3	52.5	53.1	54.2	55.3
85°	35.6	35.0	36.1	36.7	34.4	34.4	33.3	33.3	35.6	39.5	40.1
87.5°	27.7	24.3	19.8	18.6	17.5	16.4	15.2	15.2	15.8	18.1	19.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CATALOG NUMBER: ECM-F02-LED-E1-SL4-7050

**CANDELA DISTRIBUTION (continued):**

	160°	165°	170°	175°	180°
0°	971.9	971.9	971.9	971.9	971.9
2.5°	974.1	973.6	974.7	976.4	975.3
5°	967.4	967.4	969.6	971.3	970.2
7.5°	953.8	954.4	957.8	960.0	958.9
10°	932.3	933.5	937.4	940.8	942.5
12.5°	900.2	904.1	909.2	912.6	912.6
15°	859.5	865.7	871.4	876.4	873.6
17.5°	813.2	820.5	827.9	830.7	827.9
20°	757.3	757.9	762.4	765.2	764.1
22.5°	681.0	678.8	681.0	682.2	683.9
25°	603.1	599.2	596.9	600.3	602.0
27.5°	523.5	517.8	519.5	515.6	511.1
30°	446.1	441.0	434.8	433.1	436.0
32.5°	377.8	364.8	359.7	350.1	354.1
35°	305.5	292.5	280.1	276.7	274.5
37.5°	246.2	230.4	215.2	210.1	208.9
40°	192.6	179.6	169.4	166.6	165.5
42.5°	156.4	150.8	149.1	149.1	149.7
45°	142.9	143.4	145.1	146.3	146.8
47.5°	140.0	142.3	144.6	146.8	147.4
50°	140.0	141.7	143.4	145.7	146.3
52.5°	138.9	140.6	141.2	142.3	143.4
55°	137.8	138.4	138.4	138.9	140.0
57.5°	135.0	135.5	134.4	135.0	137.2
60°	132.1	132.7	131.6	132.7	133.3
62.5°	128.2	128.2	127.6	128.2	128.8
65°	123.7	122.0	123.1	122.5	123.1
67.5°	118.0	115.8	115.2	115.2	115.8
70°	110.1	108.4	107.9	109.0	110.1
72.5°	100.5	101.6	103.3	105.0	107.9
75°	93.7	95.4	97.7	103.3	107.3
77.5°	84.1	83.6	85.8	92.0	97.7
80°	70.0	70.6	70.0	71.7	72.8
82.5°	53.6	53.1	51.4	51.4	50.3
85°	37.8	36.1	33.9	33.3	32.8
87.5°	19.2	20.3	18.6	16.9	16.9
90°	0.0	0.0	0.0	0.0	0.0

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