

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: P141235

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

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P141235
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
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (14) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4661.7 lumens
Efficiency: N/A
Efficacy: 84.8 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

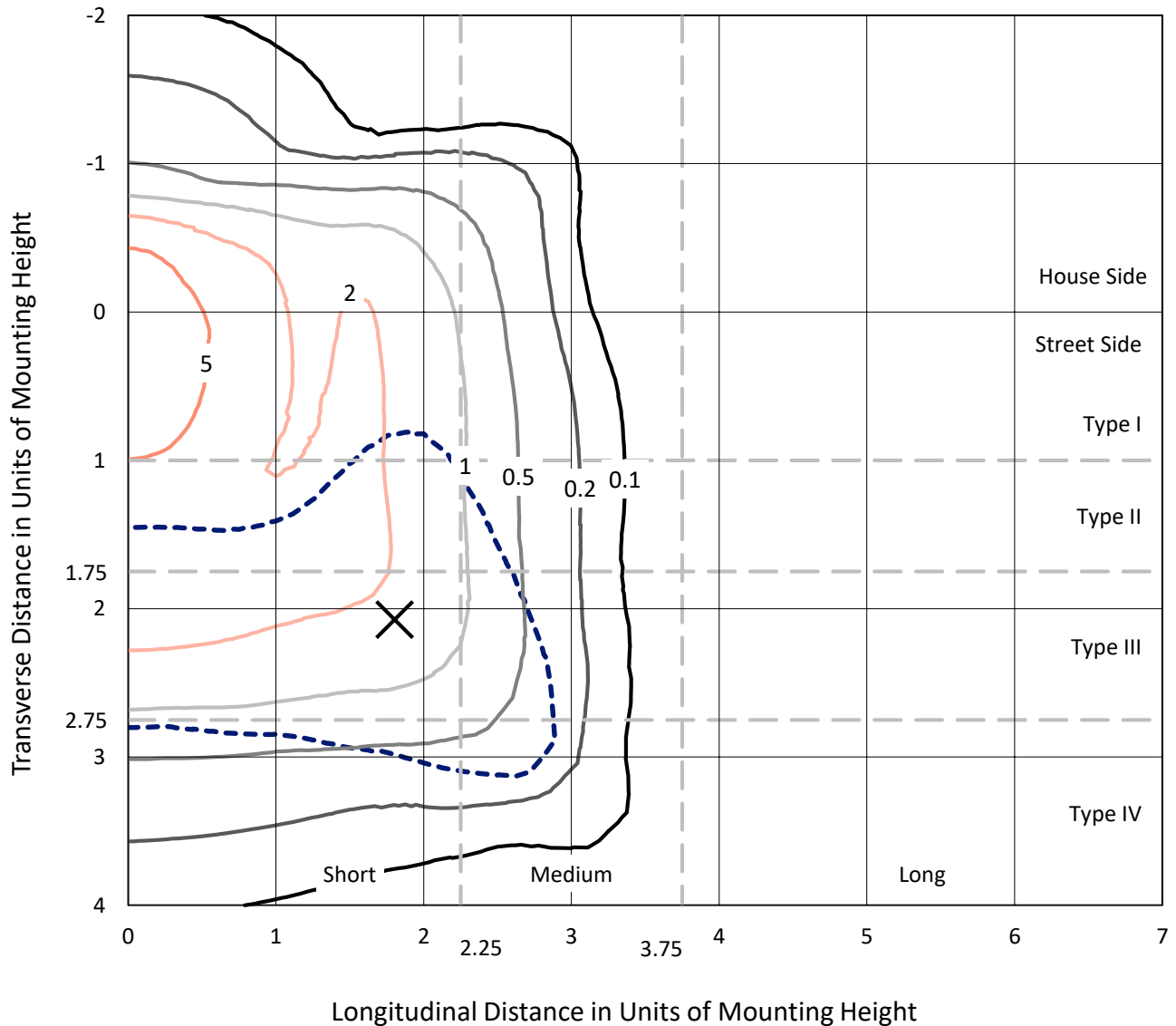
Input Watts (W): 55
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

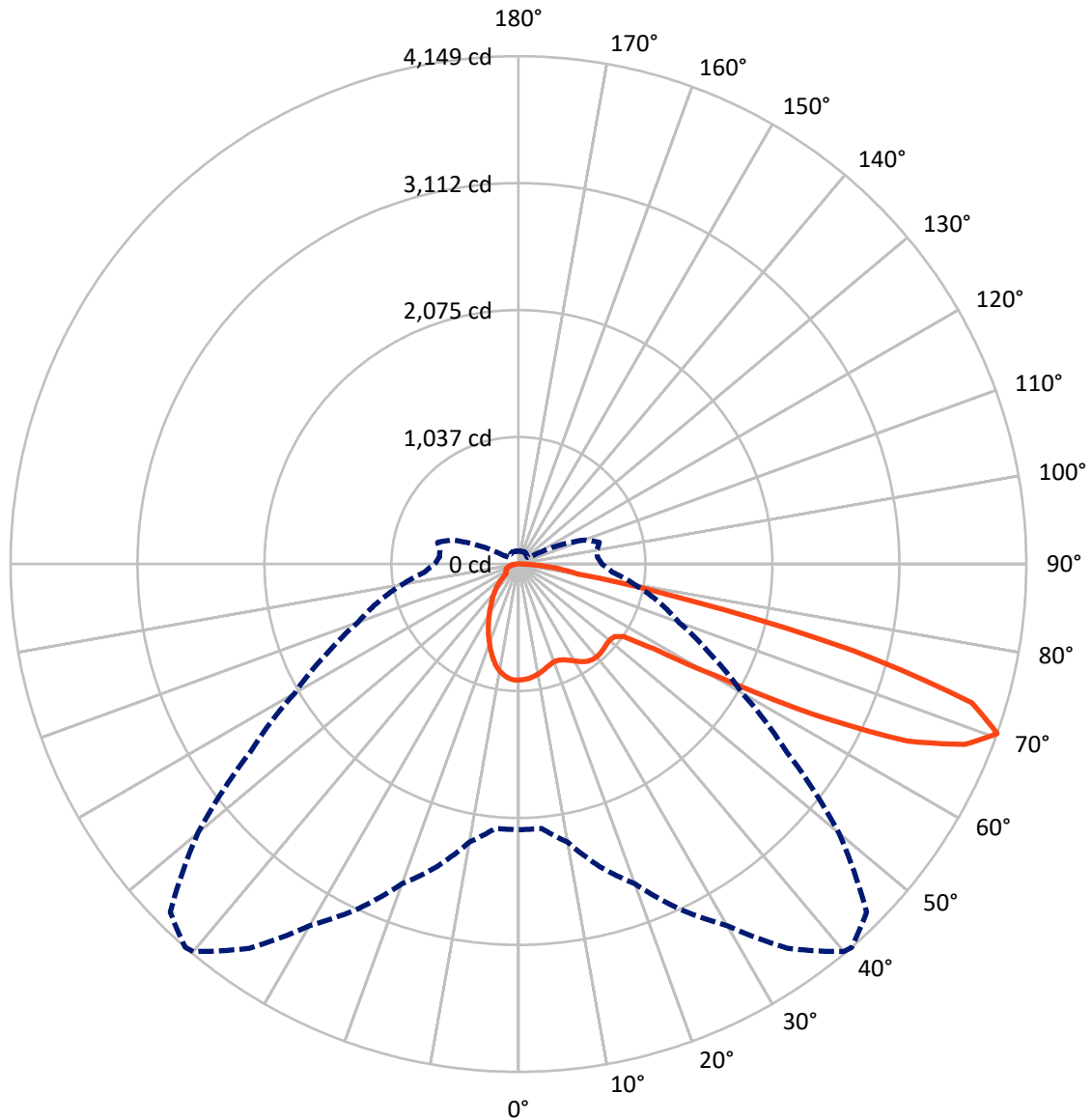
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.5 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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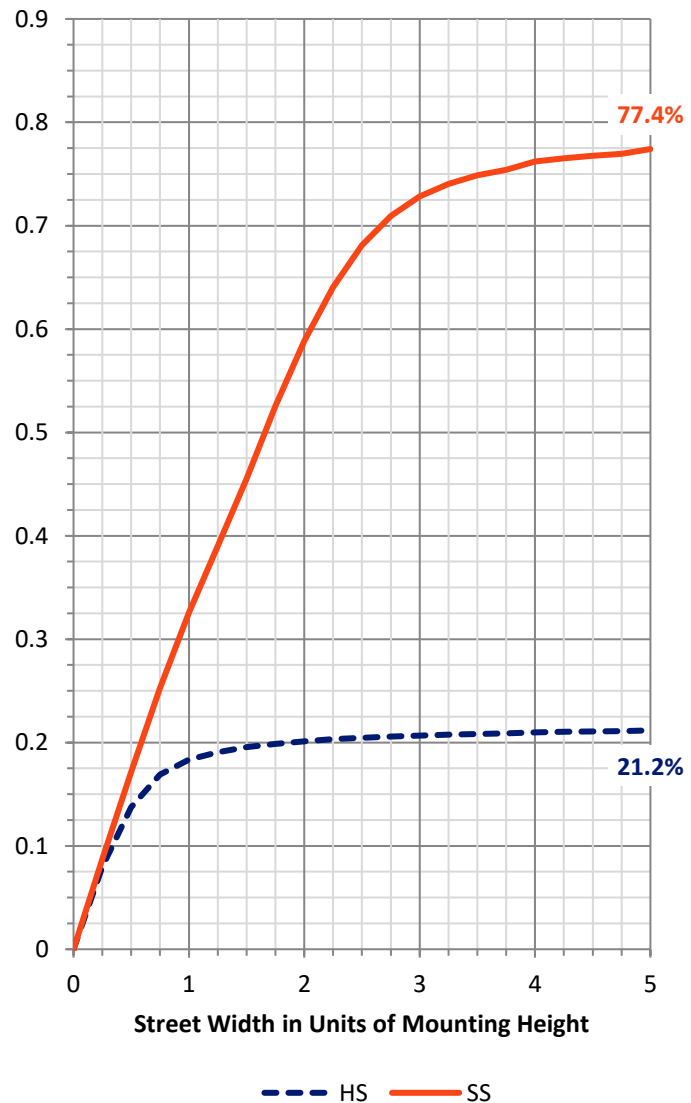
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1000.2	0.0	1000.2
	% Fixture	21.5	0.0	21.5
Street Side	Lumens	3661.5	0.0	3661.5
	% Fixture	78.5	0.0	78.5
Total	Lumens	4661.7	0.0	4661.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.1	1.9
10°-20°	236.2	5.1
20°-30°	341.5	7.3
30°-40°	434.7	9.3
40°-50°	512.3	11.0
50°-60°	783.8	16.8
60°-70°	1456.8	31.3
70°-80°	703.1	15.1
80°-90°	105.0	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°	4661.7	100.0
0°-180°	4661.7	100.0



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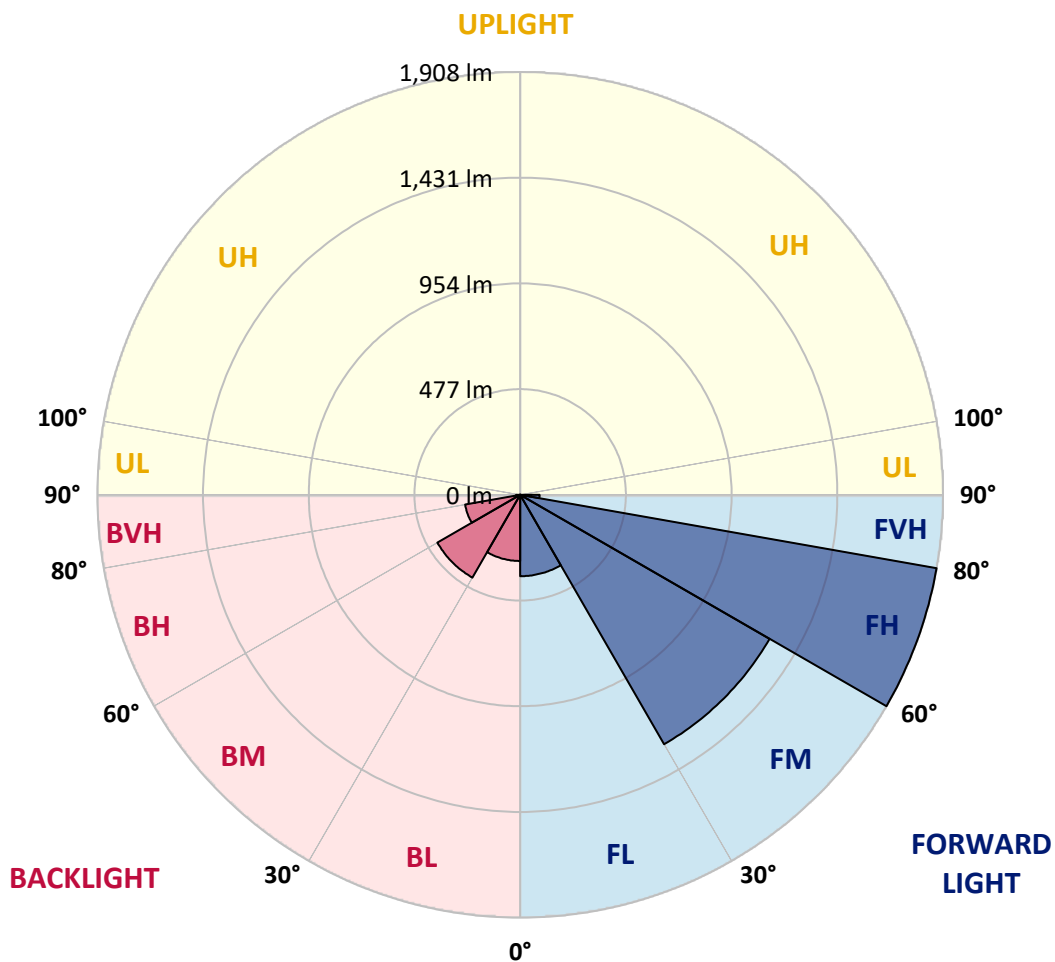
CATALOG NUMBER: ECM-F02-LED-E1-SL4

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	367.2	7.9			
FM (30°-60°)	1299.3	27.9			
FH (60°-80°)	1907.8	40.9			G2/5000
FVH (80°-90°)	87.3	1.9			G1/100
BL (0°-30°)	298.8	6.4	B1/500		
BM (30°-60°)	431.5	9.3	B1/1000		
BH (60°-80°)	252.2	5.4	B1/500		G1/500
BVH (80°-90°)	17.7	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°	947.2	947.2	947.2	947.2	947.2	947.2	947.2	947.2	947.2	947.2	947.2
2.5°	947.2	948.3	947.7	946.6	945.5	946.1	945.5	945.0	945.0	944.4	943.9
5°	942.7	945.0	943.3	942.2	940.5	940.5	940.0	938.9	937.8	937.2	936.1
7.5°	933.4	935.6	934.5	933.4	931.7	930.6	928.4	927.3	926.2	925.7	924.0
10°	920.7	921.8	920.7	918.5	917.4	916.9	915.8	913.6	911.4	910.3	908.6
12.5°	904.2	904.8	903.7	902.6	900.9	900.9	899.3	897.6	894.3	893.2	889.4
15°	889.9	888.3	887.2	886.6	886.1	883.3	883.9	881.1	875.6	874.0	869.6
17.5°	886.1	884.4	883.9	882.2	881.1	877.8	874.5	869.0	859.6	858.0	851.4
20°	897.1	897.1	895.4	894.3	892.7	886.6	879.5	869.0	851.9	848.1	839.8
22.5°	923.5	920.7	919.6	919.6	919.1	910.3	897.1	880.6	858.0	853.0	838.7
25°	964.8	959.8	961.5	960.9	959.8	947.2	927.9	904.2	873.4	866.8	848.1
27.5°	1013.7	1014.8	1014.3	1012.1	1008.8	995.0	967.5	935.6	897.1	890.5	866.3
30°	1064.9	1066.0	1069.3	1067.7	1065.5	1044.6	1010.4	975.8	929.0	920.2	890.5
32.5°	1124.4	1128.2	1131.0	1131.5	1122.7	1094.1	1053.9	1009.9	960.4	951.6	914.7
35°	1193.2	1191.0	1195.9	1193.7	1178.3	1139.2	1089.7	1037.4	986.8	975.2	935.6
37.5°	1262.5	1265.3	1260.3	1250.9	1226.7	1175.5	1114.5	1055.6	999.4	988.4	947.2
40°	1329.6	1328.0	1316.4	1300.5	1264.2	1198.7	1128.2	1063.8	1003.8	992.3	949.9
42.5°	1379.7	1375.3	1357.7	1331.8	1285.1	1209.7	1132.1	1063.8	1001.1	989.0	946.1
45°	1401.7	1397.3	1380.3	1347.3	1291.7	1207.5	1125.5	1054.5	991.7	981.3	938.3
47.5°	1401.7	1400.1	1381.4	1349.5	1290.0	1201.4	1115.6	1042.9	982.4	971.9	931.7
50°	1390.7	1389.6	1373.1	1341.8	1284.5	1198.1	1112.8	1040.7	981.8	971.4	934.5
52.5°	1427.6	1420.5	1403.4	1367.1	1304.9	1211.9	1126.6	1051.7	995.0	984.6	946.6
55°	1876.1	1870.1	1783.7	1631.8	1472.7	1327.4	1203.1	1117.2	1060.0	1044.0	1016.5
57.5°	2601.5	2592.7	2504.1	2366.0	2092.4	1781.5	1537.7	1394.6	1314.2	1302.7	1286.2
60°	2895.9	2892.6	2855.2	2799.1	2695.6	2534.9	2308.2	2070.4	1885.5	1855.8	1858.0
62.5°	3064.9	3056.6	3038.5	3024.7	2989.5	2924.0	2881.6	2815.0	2725.3	2705.0	2576.2
65°	3159.6	3158.5	3168.4	3179.9	3177.7	3197.5	3219.0	3346.1	3495.3	3488.7	3352.7
67.5°	3018.7	3028.0	3079.8	3159.0	3242.1	3330.2	3494.2	3749.0	3933.4	3933.4	3813.9
70°	2170.0	2168.4	2306.0	2556.9	2780.4	3109.5	3411.6	3831.5	4133.1	4149.1	4022.5
72.5°	1300.5	1330.7	1415.5	1529.4	1719.3	2117.7	2679.7	3434.2	3855.2	3872.3	3720.9
75°	913.6	891.0	887.7	894.3	926.8	1024.8	1334.0	2107.8	2794.7	2821.1	2674.7
77.5°	584.5	579.5	581.7	588.9	590.5	599.9	614.7	722.6	1295.5	1422.1	1415.5
80°	504.1	502.5	503.0	494.8	478.8	472.8	491.5	476.6	462.8	482.1	455.7
82.5°	337.9	344.0	353.9	367.1	399.0	410.0	404.0	401.2	357.7	347.8	308.7
85°	250.4	247.1	251.0	251.0	242.7	234.4	240.5	234.4	207.5	194.3	171.7
87.5°	135.4	135.9	146.9	151.3	150.8	128.8	106.2	91.9	83.1	77.0	64.9
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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	947.2	947.2	947.2	947.2	947.2	947.2	947.2	947.2	947.2	947.2	947.2
2.5°	944.4	942.7	943.3	943.3	942.7	943.9	942.2	941.6	942.2	942.2	942.2
5°	935.0	932.8	932.8	932.3	931.2	931.2	929.0	928.4	927.3	929.0	927.9
7.5°	921.8	918.5	915.8	913.6	912.5	910.8	908.1	907.0	905.9	905.3	904.2
10°	905.9	902.0	896.5	892.1	889.9	885.5	882.2	877.8	877.8	875.6	873.4
12.5°	886.6	881.1	875.6	869.6	865.7	859.6	854.1	849.2	845.3	840.4	837.1
15°	867.4	859.1	853.0	847.0	839.8	831.6	825.0	817.3	810.1	802.4	800.2
17.5°	846.4	839.8	834.3	827.2	819.5	809.6	800.8	788.1	779.3	769.9	762.8
20°	832.7	825.0	818.9	812.3	804.1	792.5	780.9	766.6	753.4	739.7	729.2
22.5°	825.5	812.9	807.4	801.3	793.1	780.4	767.2	749.6	733.1	714.9	698.4
25°	828.3	811.2	800.2	793.6	786.5	773.8	756.7	736.9	718.2	695.1	676.4
27.5°	840.4	817.3	800.2	789.2	781.5	768.3	750.7	728.1	705.5	681.3	658.8
30°	856.3	827.2	805.2	789.2	777.6	763.3	744.1	719.9	695.1	668.1	642.3
32.5°	874.5	838.7	812.3	790.3	771.6	753.4	733.6	708.3	682.4	653.8	628.5
35°	888.8	847.5	817.3	788.1	763.3	740.8	717.7	694.0	668.1	641.2	614.2
37.5°	897.1	853.0	817.3	780.4	750.1	726.5	702.2	679.1	654.4	627.9	604.3
40°	900.4	855.2	814.0	771.6	736.4	709.4	686.8	663.2	641.2	618.0	597.1
42.5°	898.7	853.6	809.6	763.3	725.4	696.2	671.4	649.4	631.3	612.0	594.4
45°	892.1	848.1	805.2	759.5	721.5	691.8	666.5	645.6	628.5	610.9	597.1
47.5°	886.6	845.9	807.9	768.8	732.5	702.2	674.7	651.6	637.3	623.5	614.7
50°	891.0	851.9	814.0	777.1	741.9	711.1	683.0	661.5	653.3	651.1	648.3
52.5°	903.1	864.6	832.7	806.8	790.9	779.3	750.7	745.7	738.6	734.7	725.4
55°	981.8	965.9	994.5	1025.9	1031.4	1066.0	1079.8	1080.9	1068.8	1025.9	925.7
57.5°	1302.1	1341.8	1353.9	1426.5	1446.3	1430.9	1410.0	1408.9	1371.5	1314.8	1168.9
60°	1874.5	1853.6	1827.7	1780.4	1735.8	1687.9	1621.9	1571.2	1523.4	1436.4	1282.9
62.5°	2473.3	2291.1	2158.5	2022.5	1912.5	1816.2	1720.4	1638.9	1561.3	1440.8	1276.3
65°	2992.8	2621.9	2352.7	2148.6	1978.0	1837.1	1709.9	1598.8	1500.8	1350.0	1183.3
67.5°	3330.7	2797.4	2395.1	2090.2	1849.2	1669.8	1482.6	1307.1	1210.8	1089.1	1004.4
70°	3417.1	2673.6	2112.2	1721.5	1396.8	1182.7	962.0	770.5	681.9	647.8	650.5
72.5°	3082.5	2113.3	1497.5	1095.2	857.4	679.7	552.6	424.9	331.9	278.5	271.9
75°	2013.7	1176.1	711.1	495.3	394.1	313.7	247.1	208.0	179.4	144.7	121.1
77.5°	761.1	448.0	319.2	260.3	192.6	134.3	104.6	88.1	80.9	78.7	71.0
80°	390.2	310.9	222.3	146.4	102.4	82.0	68.8	58.3	53.9	51.7	52.8
82.5°	263.1	195.9	122.7	88.1	71.0	61.1	48.4	40.7	36.3	35.8	38.5
85°	146.4	98.0	71.5	59.4	52.3	45.7	36.9	30.3	28.1	29.7	34.7
87.5°	45.7	45.1	32.5	26.4	27.5	23.7	17.6	13.2	13.2	17.1	24.2
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°	947.2	947.2	947.2	947.2	947.2	947.2	947.2	947.2	947.2	947.2	947.2
2.5°	942.2	943.3	945.5	943.9	944.4	945.0	946.6	948.8	947.2	946.1	949.4
5°	929.0	929.0	931.7	930.6	932.8	935.0	936.1	940.0	938.9	937.8	942.2
7.5°	904.8	905.3	909.2	908.1	912.5	913.0	917.4	920.7	920.7	922.9	926.8
10°	874.0	874.0	877.3	877.8	880.6	882.8	887.7	893.8	894.9	898.7	904.2
12.5°	839.3	838.2	840.9	840.9	843.1	845.9	851.4	858.5	859.6	865.7	872.9
15°	796.4	794.7	793.6	794.7	795.8	796.4	804.6	811.8	816.2	822.8	829.9
17.5°	755.1	749.0	746.3	746.3	746.8	746.8	750.1	758.4	764.4	774.9	785.3
20°	718.2	707.8	703.9	695.1	693.4	689.6	692.3	701.7	712.7	721.0	729.2
22.5°	683.5	672.5	661.5	651.1	642.8	637.9	642.8	648.9	652.7	659.3	661.5
25°	657.1	639.0	623.5	607.0	598.2	593.8	593.3	592.7	589.4	588.3	588.3
27.5°	636.2	614.7	591.6	573.5	561.4	553.1	543.7	537.1	528.9	517.9	512.4
30°	618.6	595.5	570.2	548.7	533.3	517.3	498.1	483.2	468.3	455.1	443.6
32.5°	602.6	579.0	554.2	531.6	505.2	477.7	453.5	435.9	410.0	392.4	377.5
35°	590.5	566.9	543.7	514.0	477.7	442.5	411.1	385.2	358.8	335.7	315.9
37.5°	581.7	561.9	537.1	497.0	451.3	408.9	375.9	345.1	313.7	282.3	257.6
40°	579.0	561.9	530.5	478.3	426.0	380.3	342.3	304.3	269.7	236.1	210.8
42.5°	580.6	562.5	520.1	461.7	405.1	355.5	312.6	268.6	227.3	191.5	166.2
45°	586.7	562.5	509.1	443.6	385.8	333.0	281.8	229.5	181.6	153.0	142.0
47.5°	604.8	566.3	500.3	430.4	368.7	308.2	247.1	187.7	146.9	134.8	134.8
50°	632.9	577.9	499.2	420.5	349.5	279.6	204.2	148.0	129.9	129.3	132.6
52.5°	680.8	598.2	504.7	413.9	329.1	241.1	159.1	127.7	123.8	127.1	132.1
55°	773.8	634.0	512.4	401.8	295.0	188.8	130.4	121.1	122.7	126.6	131.0
57.5°	943.9	706.1	520.6	375.9	238.9	143.1	118.3	118.9	121.6	125.5	129.3
60°	1061.1	795.3	537.1	332.4	177.8	118.3	113.4	117.8	121.1	123.8	127.1
62.5°	1071.0	827.7	549.2	283.4	132.1	107.9	109.0	115.6	120.0	121.1	122.7
65°	1011.5	785.9	514.6	233.9	109.5	102.4	106.2	112.3	116.7	117.2	118.9
67.5°	881.7	698.4	439.2	177.8	100.2	98.5	102.9	106.8	110.1	112.8	115.0
70°	683.0	570.2	353.3	138.1	93.0	92.5	96.3	100.7	104.0	106.8	110.1
72.5°	359.9	405.1	263.1	110.6	85.3	85.9	89.7	93.6	95.8	98.5	101.8
75°	111.7	171.7	162.4	88.6	75.9	78.1	80.4	83.7	87.5	89.2	90.8
77.5°	66.0	69.9	84.8	69.3	66.0	67.7	70.4	73.2	75.9	78.1	79.8
80°	53.4	54.5	55.0	55.0	55.0	57.2	59.4	63.3	65.5	66.6	67.1
82.5°	41.8	44.6	45.1	44.0	45.7	47.9	49.0	51.2	51.7	52.8	53.9
85°	34.7	34.1	35.2	35.8	33.6	33.6	32.5	32.5	34.7	38.5	39.1
87.5°	27.0	23.7	19.3	18.2	17.1	16.0	14.9	14.9	15.4	17.6	19.3
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

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	947.2	947.2	947.2	947.2	947.2
2.5°	949.4	948.8	949.9	951.6	950.5
5°	942.7	942.7	945.0	946.6	945.5
7.5°	929.5	930.1	933.4	935.6	934.5
10°	908.6	909.7	913.6	916.9	918.5
12.5°	877.3	881.1	886.1	889.4	889.4
15°	837.6	843.7	849.2	854.1	851.4
17.5°	792.5	799.7	806.8	809.6	806.8
20°	738.0	738.6	743.0	745.7	744.6
22.5°	663.7	661.5	663.7	664.8	666.5
25°	587.8	583.9	581.7	585.0	586.7
27.5°	510.2	504.7	506.3	502.5	498.1
30°	434.8	429.8	423.8	422.1	424.9
32.5°	368.2	355.5	350.6	341.2	345.1
35°	297.7	285.1	273.0	269.7	267.5
37.5°	240.0	224.5	209.7	204.7	203.6
40°	187.7	175.0	165.1	162.4	161.3
42.5°	152.4	146.9	145.3	145.3	145.8
45°	139.2	139.8	141.4	142.5	143.1
47.5°	136.5	138.7	140.9	143.1	143.6
50°	136.5	138.1	139.8	142.0	142.5
52.5°	135.4	137.0	137.6	138.7	139.8
55°	134.3	134.8	134.8	135.4	136.5
57.5°	131.5	132.1	131.0	131.5	133.7
60°	128.8	129.3	128.2	129.3	129.9
62.5°	124.9	124.9	124.4	124.9	125.5
65°	120.5	118.9	120.0	119.4	120.0
67.5°	115.0	112.8	112.3	112.3	112.8
70°	107.3	105.7	105.1	106.2	107.3
72.5°	98.0	99.1	100.7	102.4	105.1
75°	91.4	93.0	95.2	100.7	104.6
77.5°	82.0	81.5	83.7	89.7	95.2
80°	68.2	68.8	68.2	69.9	71.0
82.5°	52.3	51.7	50.1	50.1	49.0
85°	36.9	35.2	33.0	32.5	31.9
87.5°	18.7	19.8	18.2	16.5	16.5
90°	0.0	0.0	0.0	0.0	0.0

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