

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: FAIL-SAFE

Report Number: 168P157

Luminaire Tested: **FCC-X-240BX-80/87**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 168P157
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FCC-X-240BX-80/87
Description: FCC Series Luminaire with an 80/87 Lens Assembly.
Light Source: Two - F40BX/SPX35/RS - 3150 Lumens ea. - 40 Watts ea.
Ballast/Driver: Sylvania QT 2X40/120 DL Electronic

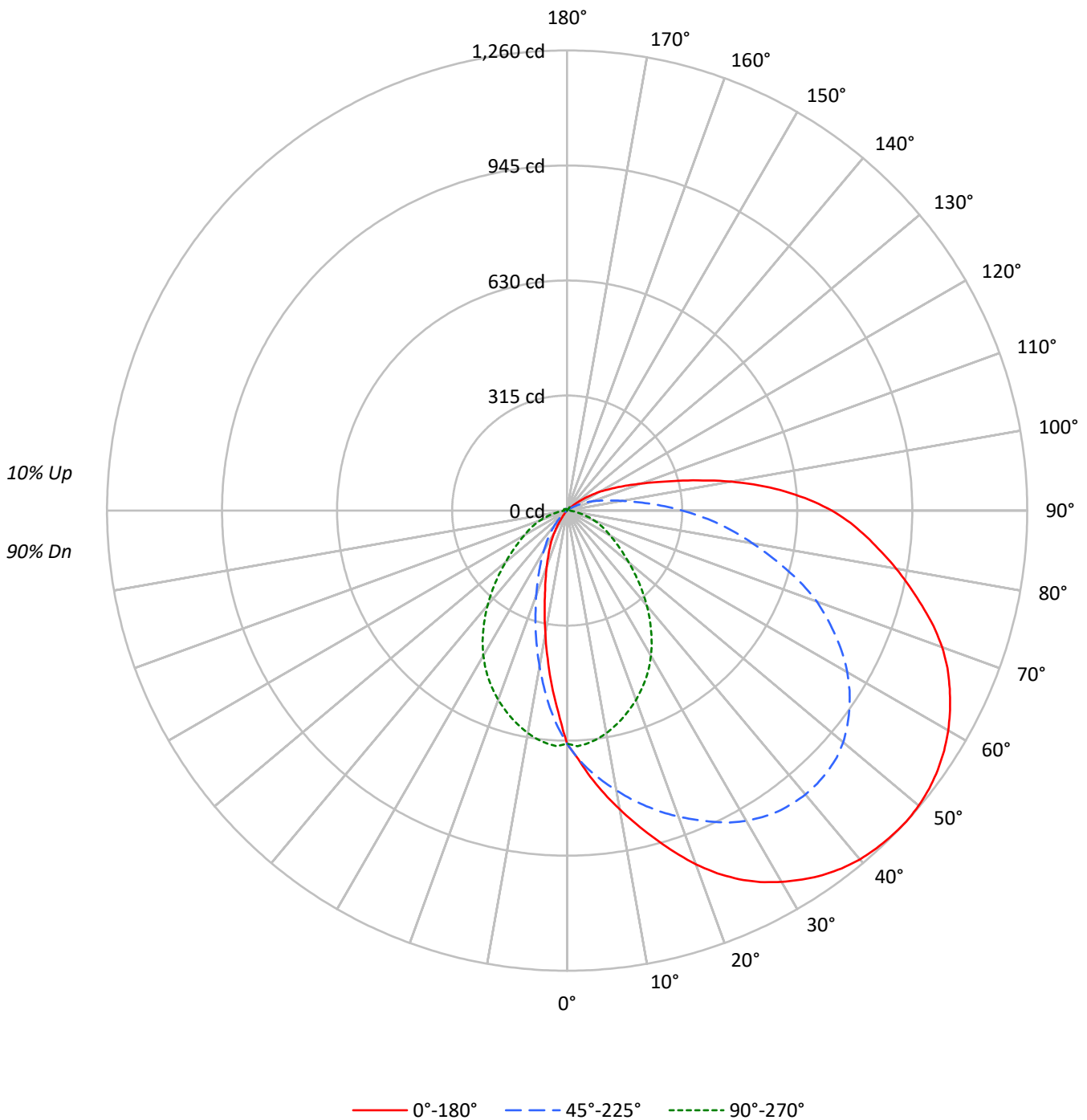
Summary

Lumens per Lamp: 3150 (2 lamps)
Luminaire Lumens: 2768.7 lumens
Efficiency: 43.9%
Efficacy: 40.1 lumens/watt
Spacing Criteria (0/90/45): 1.51 / 1.09 / 1.54
Luminous Opening: Rectangular w/ Sides (W: 1.92' x L: 0.37' x H: 0.37')
CIE Type: Direct

Input Watts (W): 69
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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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
RC	80									70									50									30									10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0														
RCR																																						
0	51	51	51	51	50	50	50	50	46	46	46	43	43	43	41	41	41	40																				
1	45	42	40	38	43	41	39	37	38	36	35	36	34	33	33	32	31	30																				
2	40	36	32	29	39	35	31	29	32	30	27	30	28	26	28	26	25	23																				
3	36	31	27	24	35	30	26	23	28	25	22	26	23	21	24	22	20	19																				
4	33	27	23	20	32	26	22	19	25	21	18	23	20	18	22	19	17	16																				
5	30	24	20	17	29	23	19	16	22	18	16	20	17	15	19	17	14	13																				
6	28	22	17	14	27	21	17	14	20	16	13	18	15	13	17	15	13	11																				
7	26	19	15	12	25	19	15	12	18	14	12	17	14	11	16	13	11	10																				
8	24	18	14	11	23	17	13	11	16	13	10	15	12	10	14	12	10	9																				
9	22	16	12	10	21	16	12	10	15	12	9	14	11	9	13	11	9	8																				
10	21	15	11	9	20	14	11	9	14	11	8	13	10	8	12	10	8	7																				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	9667	9667	9667
5°	10238	9573	6727
10°	10869	9211	4486
15°	11505	8771	2895
20°	12188	8317	1927
25°	12701	7808	1288
30°	13022	7227	776
35°	13262	6535	359
40°	13411	5772	118
45°	13478	4977	0
50°	13519	4217	0
55°	13479	3563	0
60°	13366	3090	0
65°	13180	2714	0
70°	12921	2259	0
75°	12446	1703	0
80°	11968	1167	0
85°	11511	706	14



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	59.2	2.1	0.9	0°	638	638	638	638	638	
10°-20°	166.0	6.0	2.6	5°	732	715	640	542	481	73
20°-30°	259.3	9.4	4.1	15°	930	838	588	333	234	267
30°-40°	331.5	12.0	5.3	25°	1114	940	509	180	113	516
40°-50°	375.8	13.6	6.0	35°	1219	1006	401	89	33	765
50°-60°	389.4	14.1	6.2	45°	1258	1009	277	28	0	973
60°-70°	368.3	13.3	5.8	55°	1239	944	172	3	0	1108
70°-80°	310.0	11.2	4.9	65°	1156	811	107	3	0	1144
80°-90°	232.6	8.4	3.7	75°	1006	621	50	3	0	1063
90°-100°	148.5	5.4	2.4	85°	823	417	13	3	1	691
100°-110°	74.4	2.7	1.2	90°	725	315	8	3	1	396
110°-120°	33.3	1.2	0.5	95°	600	222	8	3	1	461
120°-130°	12.8	0.5	0.2	105°	314	105	8	3	1	342
130°-140°	5.1	0.2	0.1	115°	149	46	9	3	1	152
140°-150°	2.5	0.1	0.0	125°	60	12	9	4	2	56
150°-160°	0.0	0.0	0.0	135°	11	5	10	5	3	9
160°-170°	0.0	0.0	0.0	145°	3	5	11	6	4	1
170°-180°	0.0	0.0	0.0	155°	0	0	0	0	0	0
0°-30°	484.5	17.5	7.7	165°	0	0	0	0	0	0
0°-40°	816.0	29.5	13.0	175°	0	0	0	0	0	0
0°-60°	1581.2	57.1	25.1	180°	0	0	0	0	0	0
0°-90°	2492.1	90.0	39.6							
90°-120°	256.1	9.3	4.1							
90°-150°	276.6	10.0	4.4							
90°-180°	277.0	10.0	4.4							
0°-180°	2768.7	100.0	43.9							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	638	638	638	638	638	638	638	638	638
2.5°	680	687	680	666	646	619	593	574	552
5°	732	735	715	682	640	589	542	508	481
7.5°	782	780	747	696	631	555	487	441	409
10°	831	824	778	707	619	519	434	376	343
12.5°	880	867	809	716	604	484	382	317	283
15°	930	912	838	725	588	448	333	264	234
17.5°	981	958	866	732	570	411	287	221	195
20°	1031	1002	892	737	552	373	247	184	163
22.5°	1075	1042	916	739	531	338	212	154	135
25°	1114	1081	940	739	509	302	180	127	113
27.5°	1147	1113	963	738	485	267	153	103	92
30°	1174	1138	981	733	459	234	128	82	70
32.5°	1198	1158	995	725	431	204	107	63	50
35°	1219	1174	1006	713	401	176	89	46	33
37.5°	1235	1188	1012	699	370	152	71	31	19
40°	1247	1198	1015	683	339	130	55	19	11
42.5°	1254	1203	1014	663	308	111	41	11	0
45°	1258	1205	1009	642	277	96	28	2	0
47.5°	1260	1203	1001	616	247	82	18	0	0
50°	1257	1197	987	588	220	70	12	0	0
52.5°	1250	1187	967	557	195	58	3	0	0
55°	1239	1172	944	524	172	46	3	0	0
57.5°	1224	1153	917	490	153	34	3	0	0
60°	1205	1133	886	455	136	24	3	0	0
62.5°	1182	1110	851	420	121	17	3	0	0
65°	1156	1081	811	386	107	12	3	0	0
67.5°	1127	1048	770	351	93	7	3	0	0
70°	1093	1009	727	313	78	6	3	0	0
72.5°	1052	964	677	276	64	6	3	0	0
75°	1006	918	621	242	50	6	3	0	0
77.5°	960	872	567	211	38	6	3	0	0
80°	915	824	515	184	28	6	3	1	0
82.5°	868	772	466	160	19	6	3	1	0
85°	823	717	417	138	13	6	3	0	1
87.5°	777	659	366	118	10	6	3	1	0
90°	725	599	315	100	8	6	3	1	1
92.5°	665	538	267	83	8	6	3	1	1
95°	600	476	222	67	8	6	3	1	1
97.5°	530	414	184	53	8	6	3	1	1
100°	456	354	153	41	8	6	3	1	1
102.5°	381	296	126	30	8	6	3	1	0
105°	314	244	105	20	8	6	3	1	1
107.5°	259	201	89	14	8	6	3	1	0
110°	215	167	75	12	8	6	3	1	0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	180	138	61	8	9	6	3	1	1
115°	149	113	46	8	9	6	3	1	1
117.5°	124	92	33	8	9	6	3	1	1
120°	102	72	22	8	9	7	3	1	1
122.5°	81	54	15	8	9	7	4	1	1
125°	60	38	12	8	9	7	4	2	2
127.5°	41	25	5	8	9	8	4	2	2
130°	26	15	5	8	10	8	4	2	2
132.5°	15	11	5	8	10	8	5	2	2
135°	11	3	5	8	10	8	5	2	3
137.5°	3	3	5	9	11	9	5	3	3
140°	3	3	5	9	11	9	6	3	3
142.5°	3	3	5	9	11	9	6	3	3
145°	3	3	5	9	11	9	6	4	4
147.5°	0	0	0	0	0	0	0	0	0
150°	0	0	0	0	0	0	0	0	0
152.5°	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0
157.5°	0	0	0	0	0	0	0	0	0
160°	0	0	0	0	0	0	0	0	0
162.5°	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0

(END OF REPORT)