

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: 168P156

Luminaire Tested: **FCC-X-240BX-80/86**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 168P156
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FCC-X-240BX-80/86
Description: FCC Series Luminaire with an 80/86 Lens Assembly.
Light Source: Two - F40BX/SPX35/RS - 3150 Lumens ea. - 40 Watts ea.
Ballast/Driver: Sylvania QT 2X40/120 DL Electronic

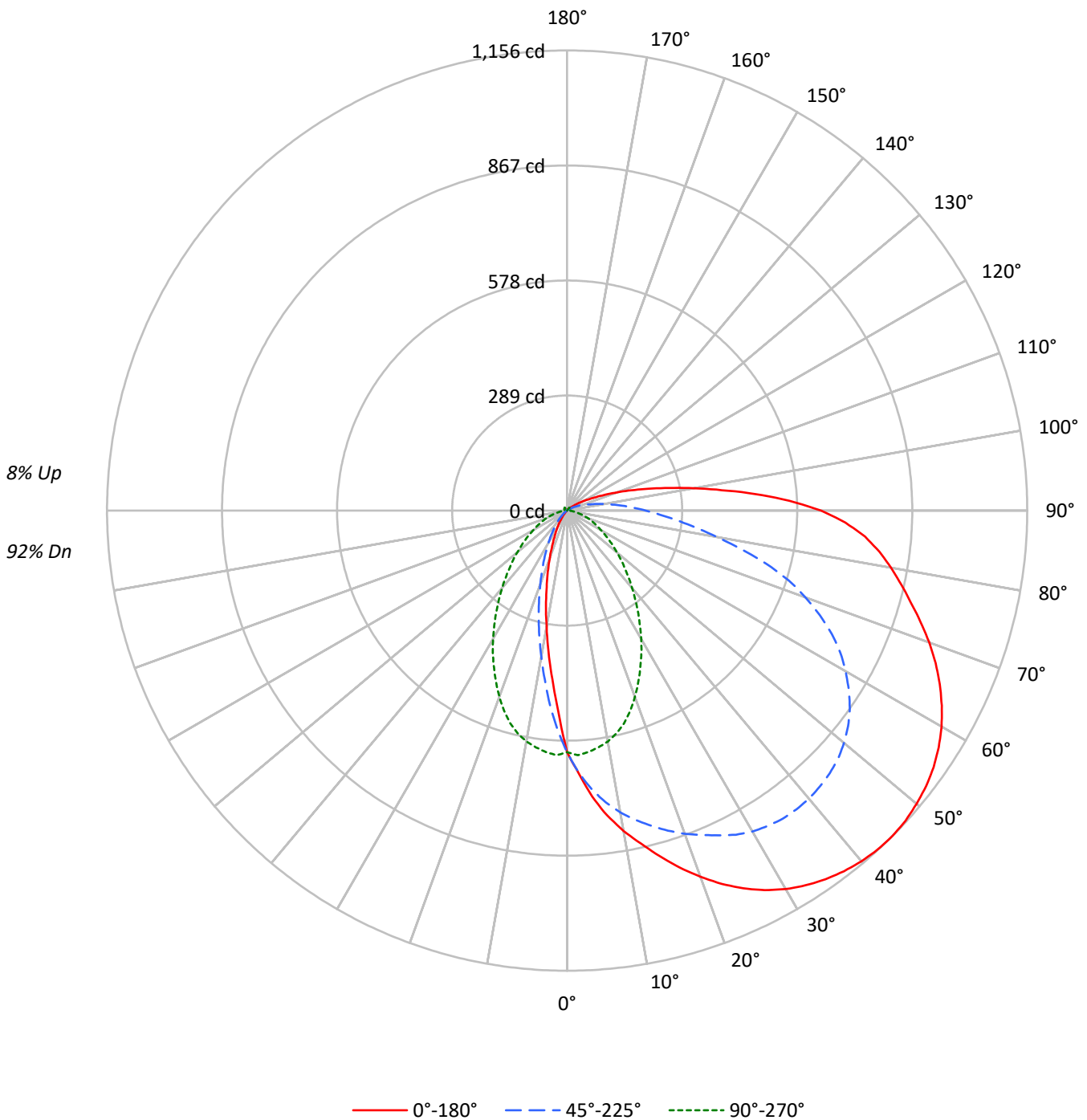
Summary

Lumens per Lamp: 3150 (2 lamps)
Luminaire Lumens: 2391.3 lumens
Efficiency: 38.0%
Efficacy: 34.7 lumens/watt
Spacing Criteria (0/90/45): 1.47 / 0.98 / 1.51
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	44	44	44	44	43	43	43	43	41	41	41	38	38	38	36	36	36	35																				
1	39	37	35	33	38	36	34	32	34	32	31	32	30	29	30	29	28	27																				
2	35	31	28	26	34	30	28	25	29	26	24	27	25	23	25	24	22	21																				
3	32	27	24	21	31	26	23	20	25	22	20	23	21	19	22	20	18	17																				
4	29	24	20	17	28	23	20	17	22	19	16	20	18	16	19	17	15	14																				
5	26	21	17	15	25	21	17	14	19	16	14	18	16	14	17	15	13	12																				
6	24	19	15	13	23	18	15	12	17	14	12	16	14	12	16	13	11	11																				
7	23	17	14	11	22	17	13	11	16	13	11	15	12	10	14	12	10	9																				
8	21	16	12	10	20	15	12	10	14	11	9	14	11	9	13	11	9	8																				
9	20	14	11	9	19	14	11	9	13	10	8	13	10	8	12	10	8	7																				
10	18	13	10	8	18	13	10	8	12	9	8	12	9	7	11	9	7	7																				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	9197	9197	9197
5°	10084	9109	5944
10°	10686	8764	3885
15°	11122	8249	2462
20°	11573	7504	1513
25°	11937	6673	889
30°	12179	5857	532
35°	12304	5052	272
40°	12368	4325	118
45°	12385	3683	0
50°	12325	3125	0
55°	12228	2652	0
60°	12046	2227	0
65°	11778	1903	0
70°	11443	1593	0
75°	11060	1192	0
80°	10804	876	13
85°	10504	597	14



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	56.1	2.3	0.9	0°	607	607	607	607	607	
10°-20°	155.7	6.5	2.5	5°	721	702	609	491	425	72
20°-30°	237.8	9.9	3.8	15°	899	820	553	276	199	257
30°-40°	301.3	12.6	4.8	25°	1047	900	435	138	78	485
40°-50°	338.8	14.2	5.4	35°	1131	945	310	61	25	709
50°-60°	345.0	14.4	5.5	45°	1156	933	205	22	0	893
60°-70°	320.1	13.4	5.1	55°	1124	867	128	2	0	1005
70°-80°	263.4	11.0	4.2	65°	1033	734	75	2	0	1022
80°-90°	189.6	7.9	3.0	75°	894	519	35	2	0	947
90°-100°	105.0	4.4	1.7	85°	751	275	11	2	1	628
100°-110°	46.4	1.9	0.7	90°	638	197	7	2	1	347
110°-120°	18.7	0.8	0.3	95°	475	139	7	2	1	356
120°-130°	7.4	0.3	0.1	105°	211	61	7	2	0	231
130°-140°	4.0	0.2	0.1	115°	80	24	8	2	1	84
140°-150°	2.1	0.1	0.0	125°	27	4	8	2	2	26
150°-160°	0.0	0.0	0.0	135°	3	4	9	4	3	5
160°-170°	0.0	0.0	0.0	145°	3	3	9	4	3	1
170°-180°	0.0	0.0	0.0	155°	0	0	0	0	0	0
0°-30°	449.6	18.8	7.1	165°	0	0	0	0	0	0
0°-40°	750.9	31.4	11.9	175°	0	0	0	0	0	0
0°-60°	1434.6	60.0	22.8	180°	0	0	0	0	0	0
0°-90°	2207.7	92.3	35.0							
90°-120°	170.2	7.1	2.7							
90°-150°	183.6	7.7	2.9							
90°-180°	184.0	7.7	2.9							
0°-180°	2391.3	100.0	38.0							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	607	607	607	607	607	607	607	607	607
2.5°	660	670	658	640	615	581	551	531	505
5°	721	726	702	663	609	545	491	457	425
7.5°	773	772	739	682	600	506	429	386	358
10°	817	810	770	698	589	465	373	326	297
12.5°	857	847	796	711	573	421	322	272	245
15°	899	884	820	720	553	379	276	225	199
17.5°	940	922	843	727	527	339	234	184	161
20°	979	957	864	731	498	302	197	149	128
22.5°	1015	988	882	731	467	267	165	120	101
25°	1047	1019	900	729	435	236	138	95	78
27.5°	1075	1045	918	724	404	207	114	74	62
30°	1098	1066	931	715	372	182	94	58	48
32.5°	1116	1082	939	702	340	159	77	46	36
35°	1131	1093	945	686	310	137	61	34	25
37.5°	1142	1101	946	667	281	118	49	25	17
40°	1150	1106	945	644	254	101	39	17	11
42.5°	1155	1109	940	617	229	84	30	11	8
45°	1156	1109	933	585	205	70	22	8	0
47.5°	1153	1104	923	549	184	58	16	0	0
50°	1146	1095	908	509	163	49	11	0	0
52.5°	1137	1080	890	467	145	41	8	0	0
55°	1124	1063	867	426	128	33	2	0	0
57.5°	1107	1044	839	388	112	26	2	0	0
60°	1086	1022	808	352	98	20	2	0	0
62.5°	1061	997	774	318	86	15	2	0	0
65°	1033	966	734	284	75	11	2	0	0
67.5°	1002	934	687	251	64	9	2	0	0
70°	968	898	637	220	55	5	2	0	0
72.5°	931	859	584	190	45	5	2	0	0
75°	894	821	519	164	35	5	2	0	0
77.5°	860	786	448	140	27	5	2	0	1
80°	826	749	381	118	21	5	2	0	1
82.5°	791	705	324	98	15	5	2	0	1
85°	751	647	275	83	11	5	2	0	1
87.5°	700	569	233	71	9	5	2	0	1
90°	638	478	197	61	7	5	2	0	1
92.5°	559	394	167	50	7	5	2	0	1
95°	475	325	139	41	7	5	2	0	1
97.5°	392	267	115	32	7	5	2	0	1
100°	323	219	95	24	7	5	2	0	1
102.5°	262	179	77	18	7	5	2	0	1
105°	211	145	61	13	7	5	2	0	0
107.5°	169	116	50	10	7	5	2	0	0
110°	134	92	40	7	7	5	2	0	1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	104	73	32	6	8	5	2	0	1
115°	80	59	24	6	8	5	2	1	1
117.5°	62	47	18	6	8	5	2	1	1
120°	49	36	13	7	8	5	2	1	1
122.5°	37	27	10	6	8	6	2	1	1
125°	27	18	4	6	8	6	2	1	2
127.5°	19	13	4	6	8	6	3	2	2
130°	13	10	4	6	8	6	3	2	2
132.5°	10	3	4	7	9	7	3	2	2
135°	3	3	4	7	9	7	4	2	3
137.5°	3	3	4	7	9	8	4	2	3
140°	3	3	3	7	9	8	4	3	3
142.5°	3	3	3	7	9	8	5	3	3
145°	3	2	3	7	9	8	4	3	3
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)