

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: P31495

Luminaire Tested: **FMSC-D24-417-UNV-80/84-EB81**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P31495
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMSC-D24-417-UNV-80/84-EB81
Description: FAIL-SAFE FMSC CONFINEMENT SURFACE CLAMSHELL FLUORESCENT
FIXTURE WITH 80/84 LENS
Light Source: (4) BIPIN T8 DOUBLE ENDED LINEAR FLUORESCENT LAMP 3500K
GE F17T8/SPX35/ECO
Ballast/Driver: (1) SYLVANIA ELECTRONIC BALLAST
QTP4X32T8/UNV ISN-SC

Summary

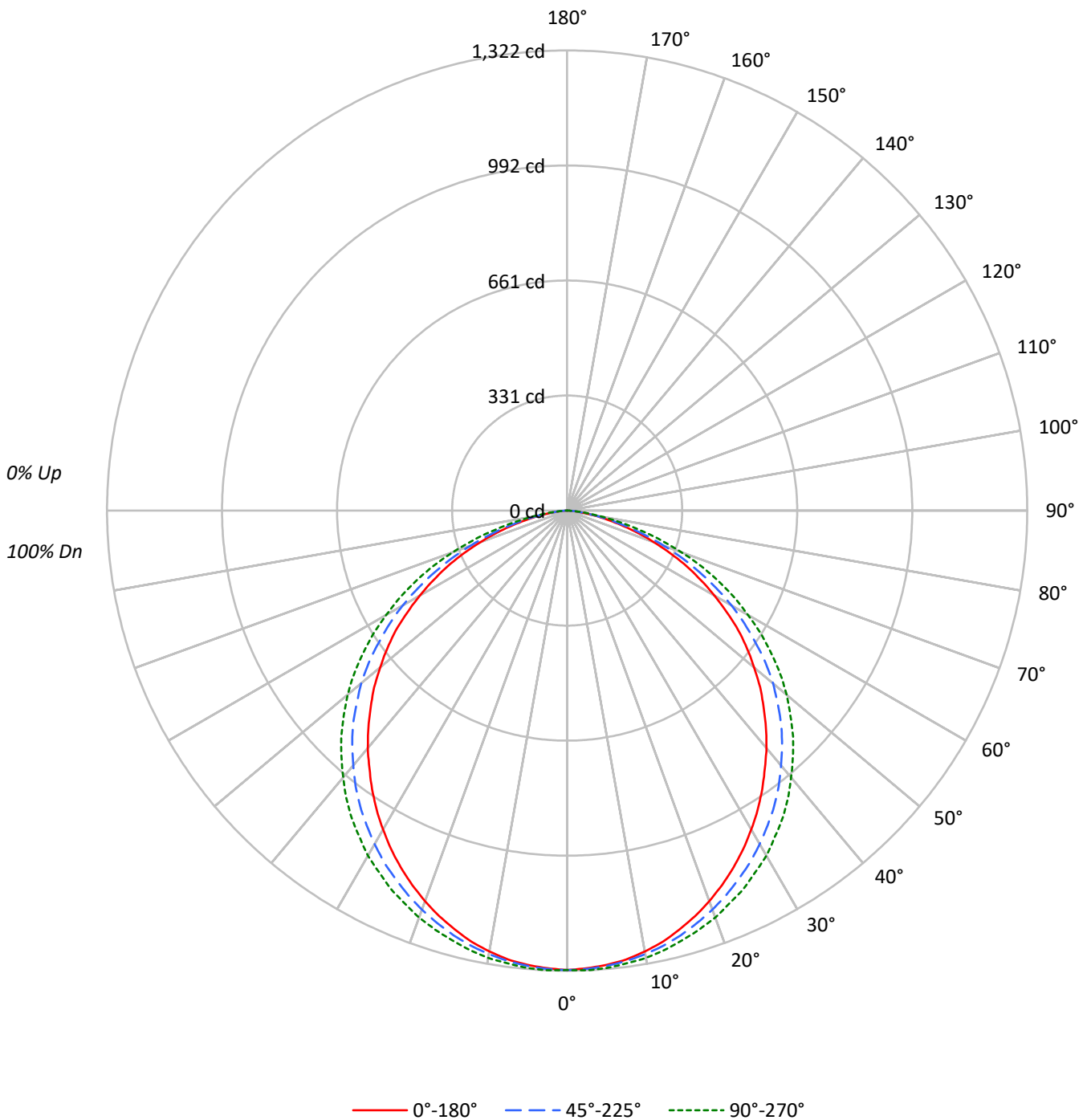
Lumens per Lamp: 1300 (4 lamps)
Luminaire Lumens: 3577.9 lumens
Efficiency: 68.8%
Efficacy: 63.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
Luminous Opening: Rectangular (W 1.54' x L: 1.71' x H: 0')
CIE Type: Direct

Input Watts (W): 56.4
Input Voltage (V): 120.05
Input Current (Ain): 4710
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				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	0
RCR																		
0	82	82	82	82	80	80	80	80	76	76	76	73	73	73	70	70	70	69
1	75	72	69	67	73	71	68	66	68	66	64	65	63	62	63	61	60	58
2	69	63	59	55	67	62	58	54	59	56	53	57	54	52	55	53	51	49
3	63	56	50	46	61	54	49	45	52	48	44	51	47	44	49	46	43	41
4	57	49	43	39	56	48	43	39	47	42	38	45	41	37	44	40	37	35
5	53	44	38	33	51	43	38	33	42	37	33	40	36	33	39	35	32	31
6	49	40	34	29	47	39	33	29	38	33	29	37	32	29	36	31	28	27
7	45	36	30	26	44	35	30	26	34	29	26	33	29	25	32	28	25	24
8	42	33	27	23	41	32	27	23	31	26	23	31	26	23	30	26	23	21
9	39	30	24	21	38	30	24	21	29	24	21	28	24	20	27	23	20	19
10	37	28	22	19	36	27	22	19	27	22	19	26	22	19	25	21	18	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5395	5395	5395
5°	5374	5387	5411
10°	5337	5370	5416
15°	5272	5344	5407
20°	5193	5306	5411
25°	5100	5263	5407
30°	4993	5220	5404
35°	4875	5174	5383
40°	4754	5100	5341
45°	4612	5029	5306
50°	4457	4909	5233
55°	4282	4703	5102
60°	3997	4463	4904
65°	3675	4062	4632
70°	3167	3537	4158
75°	2527	2811	3411
80°	1765	1954	2354
85°	891	985	1172



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	124.8	3.5	2.4	0°	1320	1320	1320	1320	1320	
10°-20°	356.2	10.0	6.9	5°	1310	1311	1313	1317	1319	124
20°-30°	537.4	15.0	10.3	15°	1246	1251	1263	1274	1278	351
30°-40°	645.6	18.0	12.4	25°	1131	1140	1167	1190	1199	521
40°-50°	666.2	18.6	12.8	35°	977	996	1037	1069	1079	611
50°-60°	591.1	16.5	11.4	45°	798	821	870	908	918	616
60°-70°	422.8	11.8	8.1	55°	601	623	660	706	716	535
70°-80°	200.6	5.6	3.9	65°	380	394	420	468	479	374
80°-90°	33.3	0.9	0.6	75°	160	169	178	209	216	173
90°-100°	0.0	0.0	0.0	85°	19	20	21	25	25	29
100°-110°	0.0	0.0	0.0	90°	0	0	0	0	0	
110°-120°	0.0	0.0	0.0							
120°-130°	0.0	0.0	0.0							
130°-140°	0.0	0.0	0.0							
140°-150°	0.0	0.0	0.0							
150°-160°	0.0	0.0	0.0							
160°-170°	0.0	0.0	0.0							
170°-180°	0.0	0.0	0.0							
0°-30°	1018.4	28.5	19.6							
0°-40°	1664.0	46.5	32.0							
0°-60°	2921.3	81.6	56.2							
0°-90°	3577.9	100.0	68.8							
90°-120°	0.0	0.0	0.0							
90°-150°	0.0	0.0	0.0							
90°-180°	0.0	0.0	0.0							
0°-180°	3577.9	100.0	68.8							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1320	1320	1320	1320	1320
2.5°	1316	1317	1318	1321	1322
5°	1310	1311	1313	1317	1319
7.5°	1301	1302	1305	1311	1312
10°	1286	1289	1294	1301	1305
12.5°	1269	1273	1280	1289	1293
15°	1246	1251	1263	1274	1278
17.5°	1222	1227	1242	1257	1262
20°	1194	1202	1220	1237	1244
22.5°	1164	1172	1195	1214	1221
25°	1131	1140	1167	1190	1199
27.5°	1096	1109	1139	1164	1171
30°	1058	1074	1106	1136	1145
32.5°	1019	1036	1072	1104	1111
35°	977	996	1037	1069	1079
37.5°	933	955	998	1031	1042
40°	891	913	956	992	1001
42.5°	845	867	914	952	960
45°	798	821	870	908	918
47.5°	752	776	820	864	870
50°	701	725	772	814	823
52.5°	652	675	719	761	772
55°	601	623	660	706	716
57.5°	544	570	604	650	661
60°	489	511	546	594	600
62.5°	433	453	483	529	542
65°	380	394	420	468	479
67.5°	322	338	359	404	417
70°	265	277	296	335	348
72.5°	212	224	236	274	282
75°	160	169	178	209	216
77.5°	115	120	128	156	157
80°	75	77	83	100	100
82.5°	43	44	47	58	58
85°	19	20	21	25	25
87.5°	6	7	7	8	7
90°	0	0	0	0	0

(END OF REPORT)