

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: P31497

Luminaire Tested: **FMSC-D24-2U6T8-UNV-80/84-EB81**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P31497  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMSC-D24-2U6T8-UNV-80/84-EB81  
Description: FAIL-SAFE FMSC CONFINEMENT SURFACE CLAMSHELL FLUORESCENT  
FIXTURE WITH 80/84 LENS  
Light Source: (2) BIPIN T8 DOUBLE ENDED U-SHAPE FLUORESCENT LAMP 3500K  
GE F32T8-SPX41-U6-WM-ECO  
Ballast/Driver: (1) SYLVANIA ELECTRONIC BALLAST  
SYL QTP232T8/UNV ISN-SC

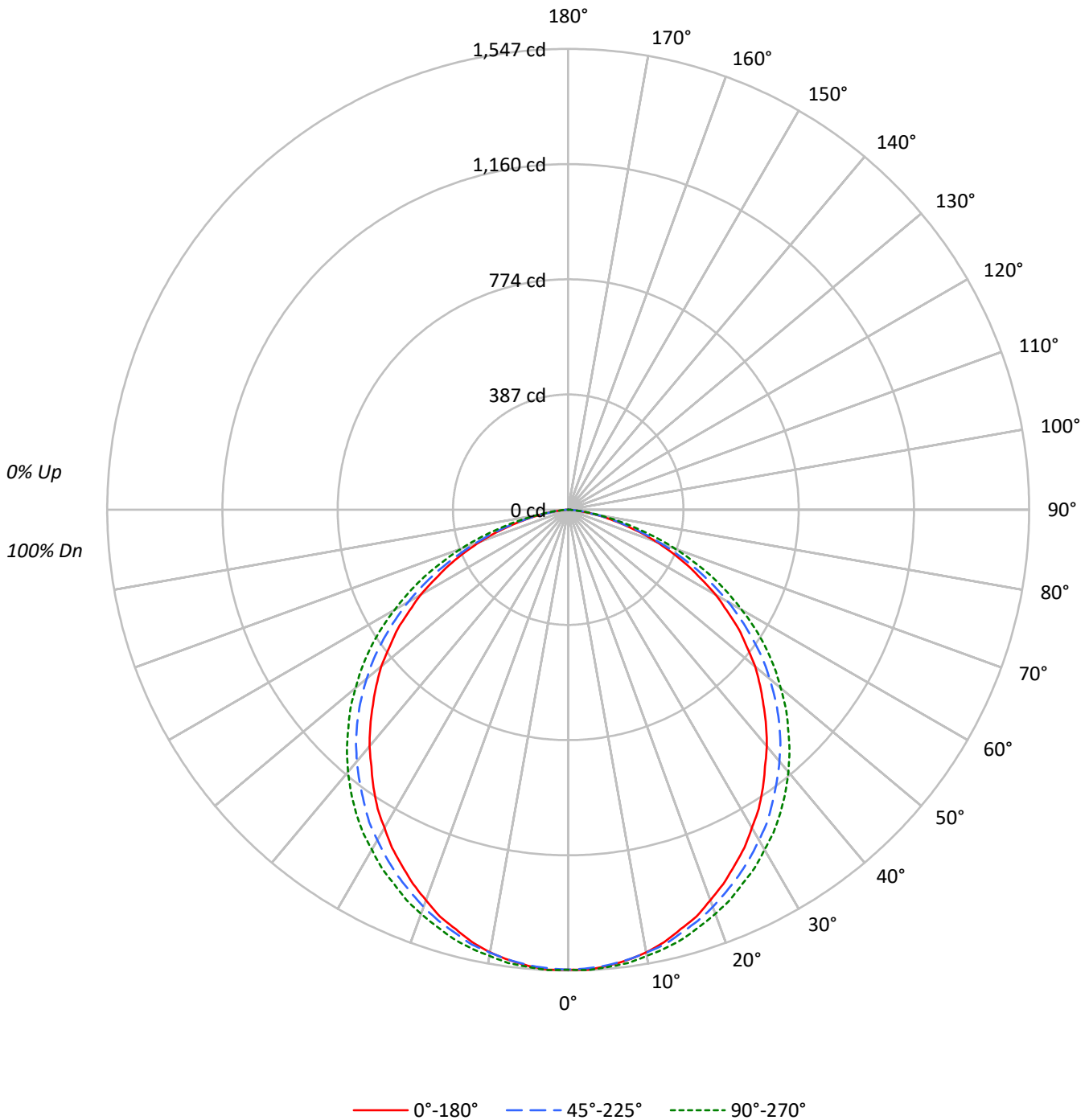
**Summary**

Lumens per Lamp: 2850 (2 lamps)  
Luminaire Lumens: 4112.1 lumens  
Efficiency: 72.1%  
Efficacy: 71.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.27 / 1.36  
Luminous Opening: Rectangular (W 1.71' x L: 1.54' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 57.2  
Input Voltage (V): 120.03  
Input Current (Ain): 0.4768  
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	86	86	86	86	84	84	84	84	80	80	80	77	77	77	74	74	74	72
1	79	76	73	70	77	74	71	69	71	69	67	68	66	65	66	64	63	61
2	72	66	62	58	70	65	61	57	62	59	56	60	57	54	58	55	53	52
3	66	58	53	48	64	57	52	48	55	51	47	53	49	46	51	48	45	44
4	60	52	46	41	59	51	45	41	49	44	40	47	43	39	46	42	39	37
5	55	46	40	35	54	46	40	35	44	39	35	43	38	34	41	37	34	32
6	51	42	35	31	50	41	35	31	40	34	30	39	34	30	37	33	30	28
7	48	38	32	27	46	37	31	27	36	31	27	35	30	27	34	30	27	25
8	44	35	28	24	43	34	28	24	33	28	24	32	27	24	31	27	24	22
9	41	32	26	22	40	31	26	22	30	25	22	30	25	22	29	25	21	20
10	39	29	24	20	38	29	23	20	28	23	20	28	23	20	27	23	20	18

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6310	6310	6310
5°	6306	6298	6322
10°	6262	6267	6312
15°	6169	6220	6309
20°	6067	6172	6280
25°	5948	6110	6246
30°	5819	6045	6220
35°	5683	5967	6197
40°	5533	5885	6130
45°	5358	5780	6034
50°	5207	5608	5920
55°	4981	5380	5772
60°	4676	5068	5501
65°	4274	4613	5145
70°	3752	3979	4553
75°	3016	3158	3679
80°	2118	2142	2495
85°	1032	1079	1219



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	146.0	3.5	2.6	0°	1544	1544	1544	1544	1544	
10°-20°	415.3	10.1	7.3	5°	1537	1536	1535	1538	1541	146
20°-30°	624.1	15.2	10.9	15°	1458	1460	1470	1482	1491	411
30°-40°	746.1	18.1	13.1	25°	1319	1329	1355	1379	1385	608
40°-50°	765.8	18.6	13.4	35°	1139	1156	1196	1229	1242	712
50°-60°	675.1	16.4	11.8	45°	927	950	1000	1038	1044	716
60°-70°	478.5	11.6	8.4	55°	699	720	755	799	810	622
70°-80°	224.4	5.5	3.9	65°	442	456	477	522	532	436
80°-90°	36.7	0.9	0.6	75°	191	193	200	231	233	205
90°-100°	0.0	0.0	0.0	85°	22	23	23	27	26	34
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°	1185.4	28.8	20.8							
0°-40°	1931.5	47.0	33.9							
0°-60°	3372.5	82.0	59.2							
0°-90°	4112.1	100.0	72.1							
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°	4112.1	100.0	72.1							



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1544	1544	1544	1544	1544
2.5°	1546	1543	1541	1544	1547
5°	1537	1536	1535	1538	1541
7.5°	1525	1525	1524	1529	1535
10°	1509	1508	1510	1519	1521
12.5°	1487	1486	1495	1502	1508
15°	1458	1460	1470	1482	1491
17.5°	1432	1432	1447	1462	1467
20°	1395	1400	1419	1435	1444
22.5°	1360	1366	1387	1410	1418
25°	1319	1329	1355	1379	1385
27.5°	1280	1293	1319	1348	1356
30°	1233	1246	1281	1310	1318
32.5°	1190	1204	1243	1273	1283
35°	1139	1156	1196	1229	1242
37.5°	1085	1106	1150	1184	1197
40°	1037	1057	1103	1139	1149
42.5°	983	1004	1054	1088	1099
45°	927	950	1000	1038	1044
47.5°	873	896	943	980	992
50°	819	840	882	925	931
52.5°	755	779	823	865	873
55°	699	720	755	799	810
57.5°	631	653	688	734	744
60°	572	588	620	663	673
62.5°	502	525	549	594	603
65°	442	456	477	522	532
67.5°	377	385	403	442	455
70°	314	322	333	371	381
72.5°	251	255	267	298	306
75°	191	193	200	231	233
77.5°	136	139	141	163	167
80°	90	91	91	106	106
82.5°	50	52	52	59	60
85°	22	23	23	27	26
87.5°	8	8	8	8	8
90°	0	0	0	0	0

(END OF REPORT)