

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: P31488

Luminaire Tested: **FMSC-D12-332-UNV-80/84-EB81**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P31488
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMSC-D12-332-UNV-80/84-EB81
Description: FAIL-SAFE FMSC CONFINEMENT SURFACE CLAMSHELL FLUORESCENT
FIXTURE WITH 80/84 LENS
Light Source: (3) BIPIN T8 DOUBLE ENDED LINEAR FLUORESCENT LAMP 5000K
F32T8-XL-SPX50-HL-ECO 32 W
Ballast/Driver: (1) SYLVANIA ELECTRONIC BALLAST
QTP3X32T8/UNV ISN-SC

Summary

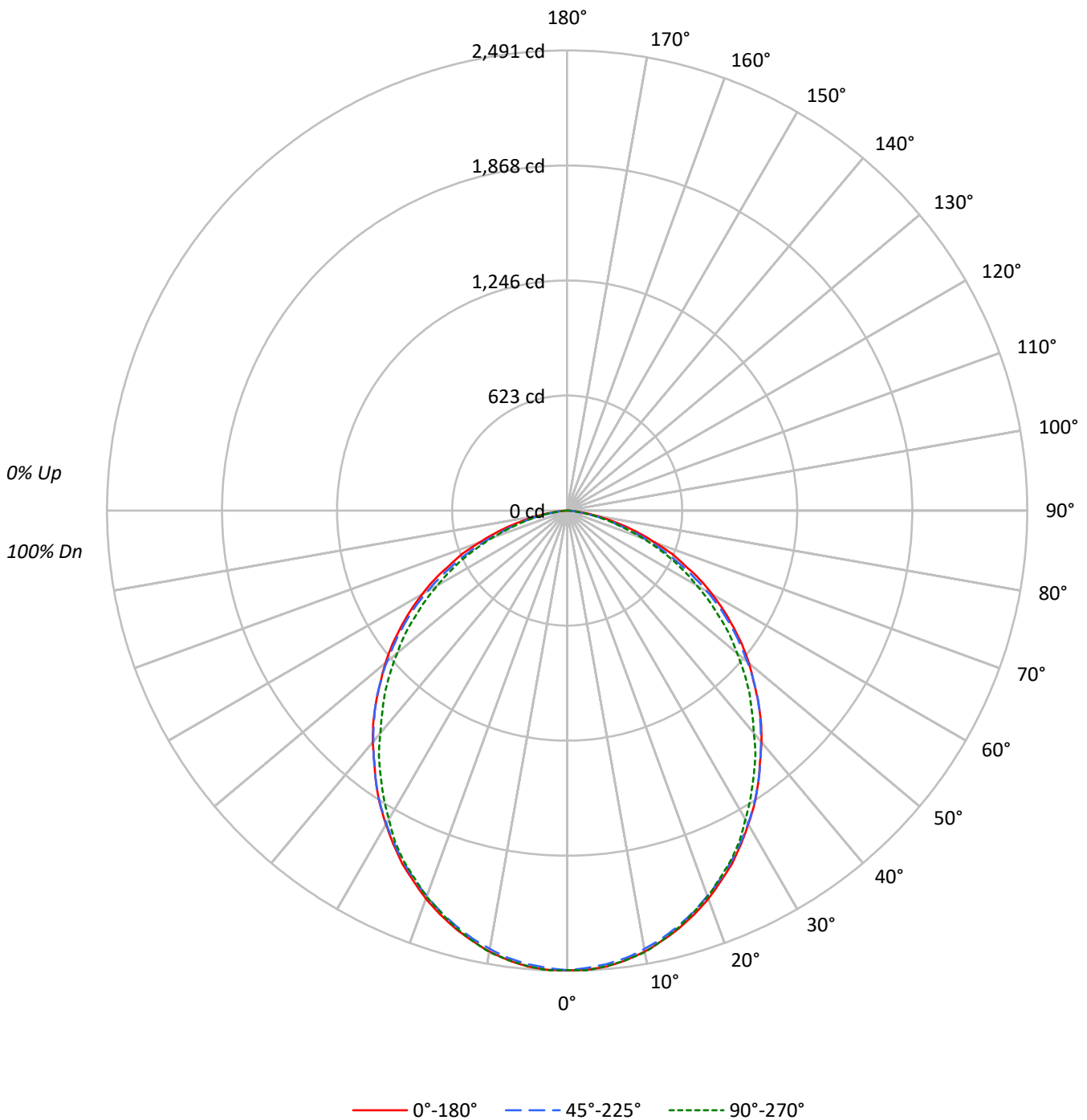
Lumens per Lamp: 3100 (3 lamps)
Luminaire Lumens: 6070.2 lumens
Efficiency: 65.3%
Efficacy: 77.7 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.16 / 1.29
Luminous Opening: Rectangular (W 0.58' x L: 3.73' x H: 0')
CIE Type: Direct

Input Watts (W): 78.1
Input Voltage (V): 120.03
Input Current (A_{in}): 0.6516
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	78	78	78	78	76	76	76	76	73	73	73		69	69	69		67	67	67	65
1	72	69	66	64	70	67	65	63	64	63	61		62	60	59		60	58	57	56
2	65	60	56	53	64	59	55	52	57	54	51		55	52	50		53	51	49	47
3	60	53	48	44	58	52	48	44	50	46	43		49	45	42		47	44	42	40
4	55	47	42	38	54	47	41	38	45	41	37		43	40	36		42	39	36	35
5	51	43	37	33	49	42	37	33	40	36	32		39	35	32		38	34	32	30
6	47	38	33	29	46	38	32	29	37	32	28		36	31	28		35	31	28	27
7	44	35	29	25	42	34	29	25	33	29	25		32	28	25		32	28	25	24
8	41	32	27	23	40	32	26	23	31	26	23		30	26	22		29	25	22	21
9	38	29	24	21	37	29	24	21	28	24	20		28	23	20		27	23	20	19
10	36	27	22	19	35	27	22	19	26	22	19		26	21	19		25	21	18	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12311	12311	12311
5°	12303	12239	12288
10°	12179	12109	12194
15°	11992	11921	11961
20°	11774	11690	11711
25°	11520	11454	11427
30°	11204	11187	11027
35°	10891	10891	10625
40°	10574	10542	10161
45°	10231	10252	9762
50°	9892	9807	9245
55°	9464	9308	8696
60°	8976	8639	8026
65°	8219	7739	7329
70°	7320	6597	6279
75°	6060	5105	4971
80°	4360	3476	3647
85°	2214	1987	1987



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	234.4	3.9	2.5	0°	2488	2488	2488	2488	2488	
10°-20°	658.0	10.8	7.1	5°	2477	2478	2464	2477	2474	235
20°-30°	967.5	15.9	10.4	15°	2341	2340	2327	2335	2335	660
30°-40°	1121.3	18.5	12.1	25°	2110	2109	2098	2100	2093	970
40°-50°	1114.2	18.4	12.0	35°	1803	1806	1803	1779	1759	1127
50°-60°	954.3	15.7	10.3	45°	1462	1470	1465	1422	1395	1128
60°-70°	662.0	10.9	7.1	55°	1097	1103	1079	1039	1008	982
70°-80°	305.7	5.0	3.3	65°	702	708	661	639	626	701
80°-90°	52.9	0.9	0.6	75°	317	305	267	273	260	339
90°-100°	0.0	0.0	0.0	85°	39	40	35	36	35	59
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°	1859.9	30.6	20.0							
0°-40°	2981.2	49.1	32.1							
0°-60°	5049.7	83.2	54.3							
0°-90°	6070.2	100.0	65.3							
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°	6070.2	100.0	65.3							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2488	2488	2488	2488	2488
2.5°	2488	2488	2478	2490	2491
5°	2477	2478	2464	2477	2474
7.5°	2454	2454	2443	2455	2454
10°	2424	2423	2410	2423	2427
12.5°	2384	2383	2372	2384	2383
15°	2341	2340	2327	2335	2335
17.5°	2291	2291	2277	2287	2279
20°	2236	2232	2220	2230	2224
22.5°	2172	2174	2162	2169	2156
25°	2110	2109	2098	2100	2093
27.5°	2037	2043	2030	2028	2019
30°	1961	1967	1958	1945	1930
32.5°	1886	1891	1884	1866	1847
35°	1803	1806	1803	1779	1759
37.5°	1715	1730	1717	1693	1674
40°	1637	1646	1632	1604	1573
42.5°	1553	1559	1548	1514	1481
45°	1462	1470	1465	1422	1395
47.5°	1369	1380	1371	1329	1299
50°	1285	1287	1274	1230	1201
52.5°	1194	1196	1176	1135	1111
55°	1097	1103	1079	1039	1008
57.5°	1004	1008	981	942	911
60°	907	908	873	839	811
62.5°	812	810	766	742	719
65°	702	708	661	639	626
67.5°	616	610	558	541	524
70°	506	501	456	447	434
72.5°	410	405	357	356	339
75°	317	305	267	273	260
77.5°	231	220	191	192	189
80°	153	142	122	129	128
82.5°	91	82	71	71	72
85°	39	40	35	36	35
87.5°	11	14	15	16	16
90°	0	0	0	0	0

(END OF REPORT)