

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: P31798

Luminaire Tested: **FUSL-D12-254T5-UNV-80/86-EB51**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P31798
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FUSL-D12-254T5-UNV-80/86-EB51
Description: FAIL-SAFE 1X4 FLUORESCENT 16 GAUGE CONFINEMENT-CORRECTIONAL
FIXTURE WITH A 0.125 PRISMATIC LENS FIXTURE SIDE, A 0.250
CLEAR POLYCARBONATE LENS ENVIRONMENTAL SIDE
Light Source: (2) GE BIPIN T5 DOUBLE ENDED LINEAR FLUORESCENT LAMP 3500K
F54W-T5-835-ECO
Ballast/Driver: (1) UNIVERSAL BALLAST
B254PUNV-D

Summary

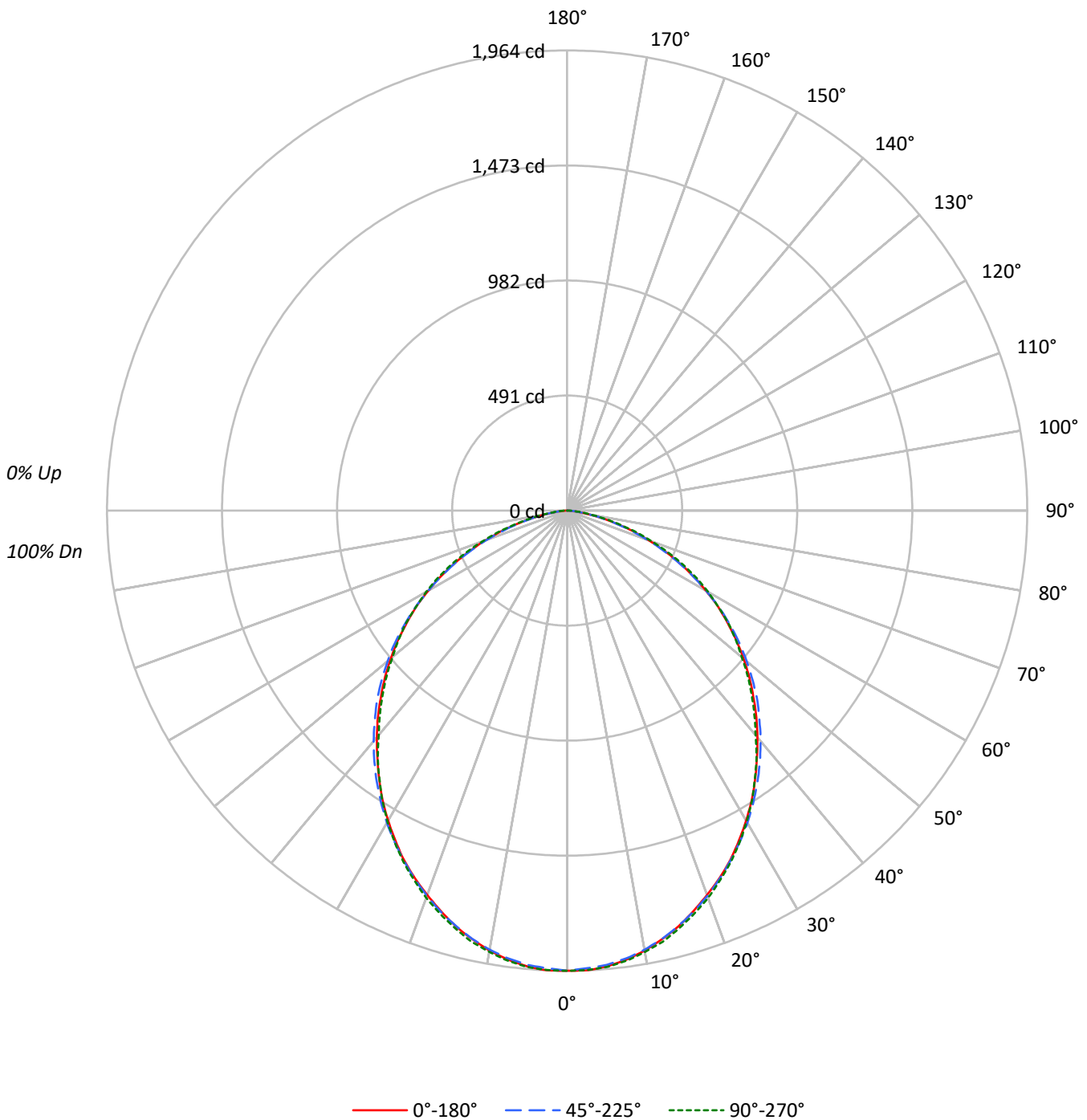
Lumens per Lamp: 4400 (2 lamps)
Luminaire Lumens: 4788.5 lumens
Efficiency: 54.4%
Efficacy: 47.0 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.17 / 1.29
Luminous Opening: Rectangular (W 0.44' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 101.9
Input Voltage (V): 120.03
Input Current (A_{in}): 0.850
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	65	65	65	65	63	63	63	63	60	60	60	58	58	58	56	56	56	54
1	60	57	55	53	58	56	54	52	54	52	51	52	50	49	50	49	48	47
2	55	50	47	44	53	49	46	43	47	45	42	46	43	41	44	42	40	39
3	50	44	40	37	49	44	40	36	42	39	36	40	38	35	39	37	35	33
4	46	40	35	31	45	39	35	31	37	34	31	36	33	30	35	32	30	29
5	42	35	31	27	41	35	30	27	34	30	27	33	29	26	32	29	26	25
6	39	32	27	24	38	31	27	24	31	27	24	30	26	23	29	26	23	22
7	36	29	24	21	35	29	24	21	28	24	21	27	23	21	26	23	21	20
8	34	27	22	19	33	26	22	19	26	22	19	25	21	19	24	21	19	18
9	32	24	20	17	31	24	20	17	24	20	17	23	19	17	22	19	17	16
10	30	23	18	16	29	22	18	16	22	18	15	21	18	15	21	18	15	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12080	12080	12080
5°	12058	12015	12071
10°	11911	11886	11948
15°	11698	11685	11755
20°	11429	11455	11514
25°	11178	11191	11225
30°	10852	10931	10888
35°	10505	10632	10490
40°	10141	10318	10045
45°	9777	9986	9690
50°	9406	9569	9311
55°	8965	9083	9019
60°	8414	8439	8537
65°	7670	7626	7932
70°	6690	6546	6924
75°	5276	5205	5561
80°	3578	3578	3932
85°	1694	2117	2470



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	184.9	3.9	2.1	0°	1964	1964	1964	1964	1964	
10°-20°	518.5	10.8	5.9	5°	1953	1953	1946	1954	1955	185
20°-30°	760.5	15.9	8.6	15°	1837	1838	1835	1846	1846	517
30°-40°	880.5	18.4	10.0	25°	1647	1653	1649	1656	1654	757
40°-50°	874.7	18.3	9.9	35°	1399	1411	1416	1408	1397	875
50°-60°	754.7	15.8	8.6	45°	1124	1146	1148	1125	1114	868
60°-70°	527.6	11.0	6.0	55°	836	852	847	842	841	748
70°-80°	244.1	5.1	2.8	65°	527	529	524	543	545	522
80°-90°	43.0	0.9	0.5	75°	222	223	219	236	234	241
90°-100°	0.0	0.0	0.0	85°	24	28	30	34	35	37
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°	1463.9	30.6	16.6							
0°-40°	2344.4	49.0	26.6							
0°-60°	3973.8	83.0	45.2							
0°-90°	4788.5	100.0	54.4							
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°	4788.5	100.0	54.4							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1964	1964	1964	1964	1964
2.5°	1964	1963	1955	1963	1963
5°	1953	1953	1946	1954	1955
7.5°	1933	1934	1928	1937	1938
10°	1907	1908	1903	1913	1913
12.5°	1874	1878	1872	1883	1885
15°	1837	1838	1835	1846	1846
17.5°	1792	1798	1795	1806	1804
20°	1746	1752	1750	1759	1759
22.5°	1699	1703	1701	1710	1707
25°	1647	1653	1649	1656	1654
27.5°	1588	1597	1595	1600	1595
30°	1528	1537	1539	1539	1533
32.5°	1466	1477	1478	1473	1468
35°	1399	1411	1416	1408	1397
37.5°	1331	1346	1351	1337	1328
40°	1263	1280	1285	1267	1251
42.5°	1196	1212	1215	1197	1183
45°	1124	1146	1148	1125	1114
47.5°	1055	1076	1074	1054	1045
50°	983	1003	1000	985	973
52.5°	911	932	926	913	907
55°	836	852	847	842	841
57.5°	764	774	768	773	765
60°	684	694	686	698	694
62.5°	607	612	604	623	622
65°	527	529	524	543	545
67.5°	448	450	443	470	465
70°	372	368	364	387	385
72.5°	297	294	287	311	313
75°	222	223	219	236	234
77.5°	158	157	156	168	170
80°	101	103	101	111	111
82.5°	56	58	59	65	66
85°	24	28	30	34	35
87.5°	5	11	15	19	20
90°	0	0	0	0	0

(END OF REPORT)