

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P590854

Luminaire Tested: FSR-24-2-LD4-4LO-40-UNV-82-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590854
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4LO-40-UNV-82-85-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

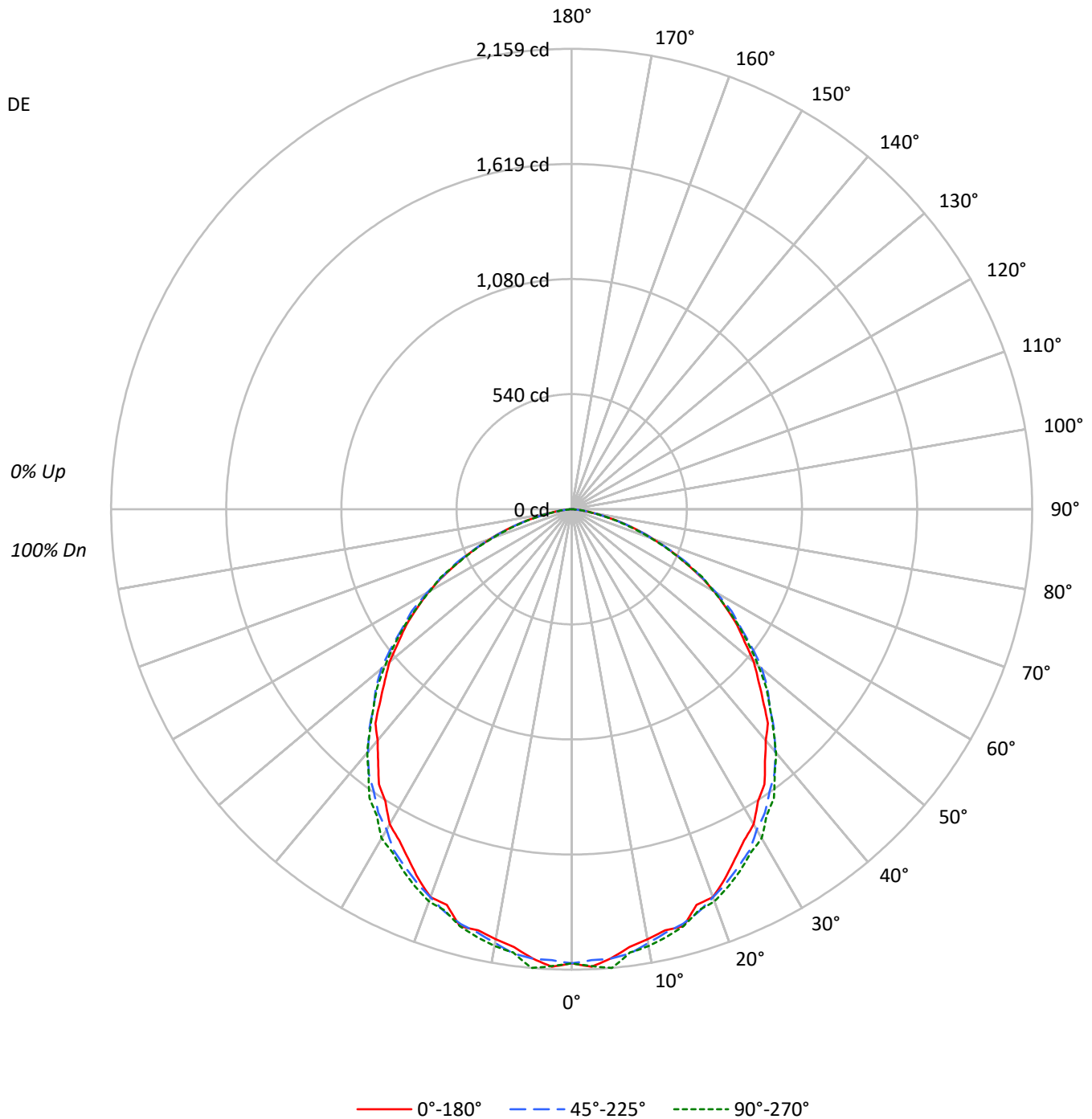
Lumens per Lamp: N/A
Luminaire Lumens: 5366.0 lumens
Efficiency: N/A
Efficacy: 114.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V):
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: 24 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	50	30	10	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5729	5729	5729
5°	5710	5713	5833
10°	5595	5643	5683
15°	5639	5608	5640
20°	5544	5544	5603
25°	5373	5491	5551
30°	5299	5392	5536
35°	5175	5310	5429
40°	4973	5213	5236
45°	4823	4994	5002
50°	4665	4875	4782
55°	4444	4531	4498
60°	4156	4197	4122
65°	3706	3800	3679
70°	3179	3190	3102
75°	2518	2512	2415
80°	1688	1640	1576
85°	917	908	849

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 5123 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.3	3.7
10°-20°	567.6	10.6
20°-30°	850.4	15.8
30°-40°	1007.9	18.8
40°-50°	1009.7	18.8
50°-60°	857.1	16.0
60°-70°	577.9	10.8
70°-80°	253.9	4.7
80°-90°	41.3	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1618.3	30.2
0°-40°	2626.1	48.9
0°-60°	4493.0	83.7
0°-90°	5366.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5366.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2129	2129	2129	2129	2129	
5°	2114	2109	2115	2108	2159	199
15°	2024	2001	2013	2024	2024	564
25°	1810	1820	1849	1873	1870	837
35°	1575	1580	1616	1654	1653	978
45°	1267	1291	1312	1346	1314	980
55°	947	941	966	959	959	843
65°	582	574	597	574	578	579
75°	242	237	242	225	232	260
85°	30	29	29	29	28	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2129.1	2129.1	2129.1	2129.1	2129.1
2.5°	2147.5	2131.3	2116.2	2133.8	2144.5
5°	2114.0	2109.0	2114.8	2108.5	2159.3
7.5°	2070.5	2089.5	2100.5	2093.6	2096.7
10°	2047.4	2040.9	2065.3	2082.4	2079.9
12.5°	2022.7	2032.6	2034.0	2052.4	2054.0
15°	2024.1	2000.7	2013.1	2023.5	2024.4
17.5°	1945.5	1970.8	1979.3	2003.2	1973.5
20°	1935.8	1917.4	1935.8	1960.3	1956.5
22.5°	1876.7	1856.1	1895.7	1917.4	1916.0
25°	1809.7	1819.6	1849.2	1873.4	1869.6
27.5°	1750.8	1762.4	1804.7	1838.0	1816.5
30°	1705.5	1699.7	1735.4	1765.1	1781.6
32.5°	1624.4	1645.3	1687.1	1716.5	1700.8
35°	1575.2	1579.8	1616.4	1653.8	1652.7
37.5°	1489.1	1510.8	1562.3	1572.7	1563.1
40°	1415.7	1437.4	1483.9	1495.2	1490.5
42.5°	1361.6	1365.4	1405.3	1418.2	1397.6
45°	1267.3	1290.9	1312.4	1346.2	1314.3
47.5°	1187.0	1198.0	1244.2	1253.3	1236.5
50°	1114.2	1118.0	1164.5	1153.2	1142.2
52.5°	1022.6	1038.8	1065.0	1062.8	1049.8
55°	947.3	941.0	965.7	959.1	958.8
57.5°	856.9	867.9	888.2	877.8	861.0
60°	772.2	772.5	779.9	768.1	765.9
62.5°	677.9	681.2	682.8	668.3	691.9
65°	582.0	574.3	596.8	574.0	577.8
67.5°	493.7	497.6	495.4	481.1	486.6
70°	404.1	409.0	405.5	389.3	394.2
72.5°	322.2	316.1	320.0	299.6	309.0
75°	242.2	237.2	241.6	224.6	232.3
77.5°	164.9	168.8	166.0	157.0	162.2
80°	108.9	105.8	105.8	100.6	101.7
82.5°	63.5	60.5	59.7	58.0	60.5
85°	29.7	28.9	29.4	28.6	27.5
87.5°	10.7	11.0	11.0	10.4	9.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)