

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: P590815

Luminaire Tested: FSR-24-2-LD4-4LO-35-UNV-81-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590815
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-35-UNV-81-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

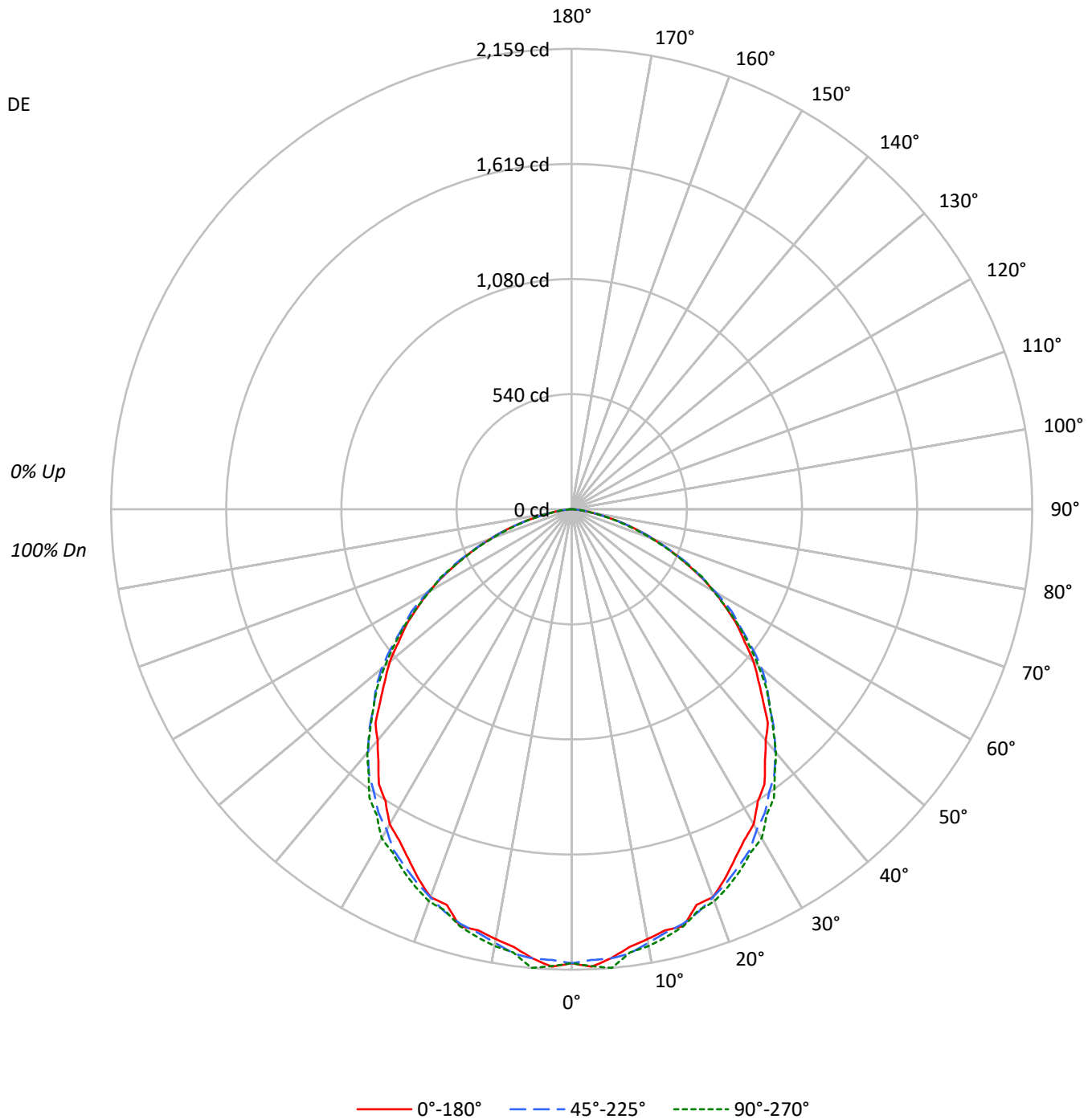
Lumens per Lamp: N/A
Luminaire Lumens: 5365.0 lumens
Efficiency: N/A
Efficacy: 114.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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				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	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°	5728	5728	5728
5°	5709	5712	5832
10°	5594	5642	5682
15°	5638	5607	5639
20°	5543	5543	5602
25°	5372	5490	5550
30°	5299	5391	5535
35°	5174	5309	5428
40°	4972	5212	5235
45°	4822	4993	5001
50°	4664	4874	4781
55°	4443	4530	4498
60°	4155	4196	4121
65°	3705	3799	3678
70°	3179	3190	3101
75°	2517	2512	2414
80°	1686	1640	1576
85°	917	908	849

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 5122 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.2	3.7
10°-20°	567.5	10.6
20°-30°	850.2	15.8
30°-40°	1007.7	18.8
40°-50°	1009.5	18.8
50°-60°	856.9	16.0
60°-70°	577.8	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°	1618.0	30.2
0°-40°	2625.6	48.9
0°-60°	4492.1	83.7
0°-90°	5365.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5365.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2129	2129	2129	2129	2129	
5°	2114	2109	2114	2108	2159	199
15°	2024	2000	2013	2023	2024	564
25°	1809	1819	1849	1873	1869	836
35°	1575	1580	1616	1654	1652	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	259
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°	2128.7	2128.7	2128.7	2128.7	2128.7
2.5°	2147.1	2130.9	2115.8	2133.4	2144.1
5°	2113.6	2108.6	2114.4	2108.1	2158.9
7.5°	2070.2	2089.1	2100.1	2093.2	2096.3
10°	2047.1	2040.5	2064.9	2082.0	2079.5
12.5°	2022.3	2032.2	2033.6	2052.0	2053.7
15°	2023.7	2000.3	2012.7	2023.2	2024.0
17.5°	1945.1	1970.4	1978.9	2002.8	1973.1
20°	1935.5	1917.1	1935.5	1959.9	1956.1
22.5°	1876.4	1855.8	1895.4	1917.1	1915.7
25°	1809.3	1819.2	1848.9	1873.1	1869.2
27.5°	1750.5	1762.0	1804.4	1837.6	1816.2
30°	1705.2	1699.4	1735.1	1764.8	1781.3
32.5°	1624.1	1645.0	1686.7	1716.1	1700.5
35°	1574.9	1579.6	1616.1	1653.5	1652.4
37.5°	1488.9	1510.6	1562.0	1572.4	1562.8
40°	1415.5	1437.2	1483.6	1494.9	1490.2
42.5°	1361.3	1365.2	1405.0	1417.9	1397.3
45°	1267.0	1290.7	1312.1	1345.9	1314.0
47.5°	1186.8	1197.8	1244.0	1253.0	1236.3
50°	1114.0	1117.8	1164.3	1153.0	1142.0
52.5°	1022.4	1038.6	1064.8	1062.6	1049.6
55°	947.1	940.8	965.5	958.9	958.7
57.5°	856.7	867.7	888.0	877.6	860.8
60°	772.0	772.3	779.7	767.9	765.7
62.5°	677.8	681.1	682.7	668.2	691.8
65°	581.9	574.2	596.7	573.9	577.7
67.5°	493.6	497.5	495.3	481.0	486.5
70°	404.0	409.0	405.4	389.2	394.1
72.5°	322.1	316.1	319.9	299.6	308.9
75°	242.1	237.2	241.6	224.6	232.2
77.5°	164.9	168.8	166.0	156.9	162.2
80°	108.8	105.8	105.8	100.6	101.7
82.5°	63.5	60.5	59.6	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)