

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: P562760

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562760
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-2LO-40-UNV-81-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3967.0 lumens
Efficiency: N/A
Efficacy: 84.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

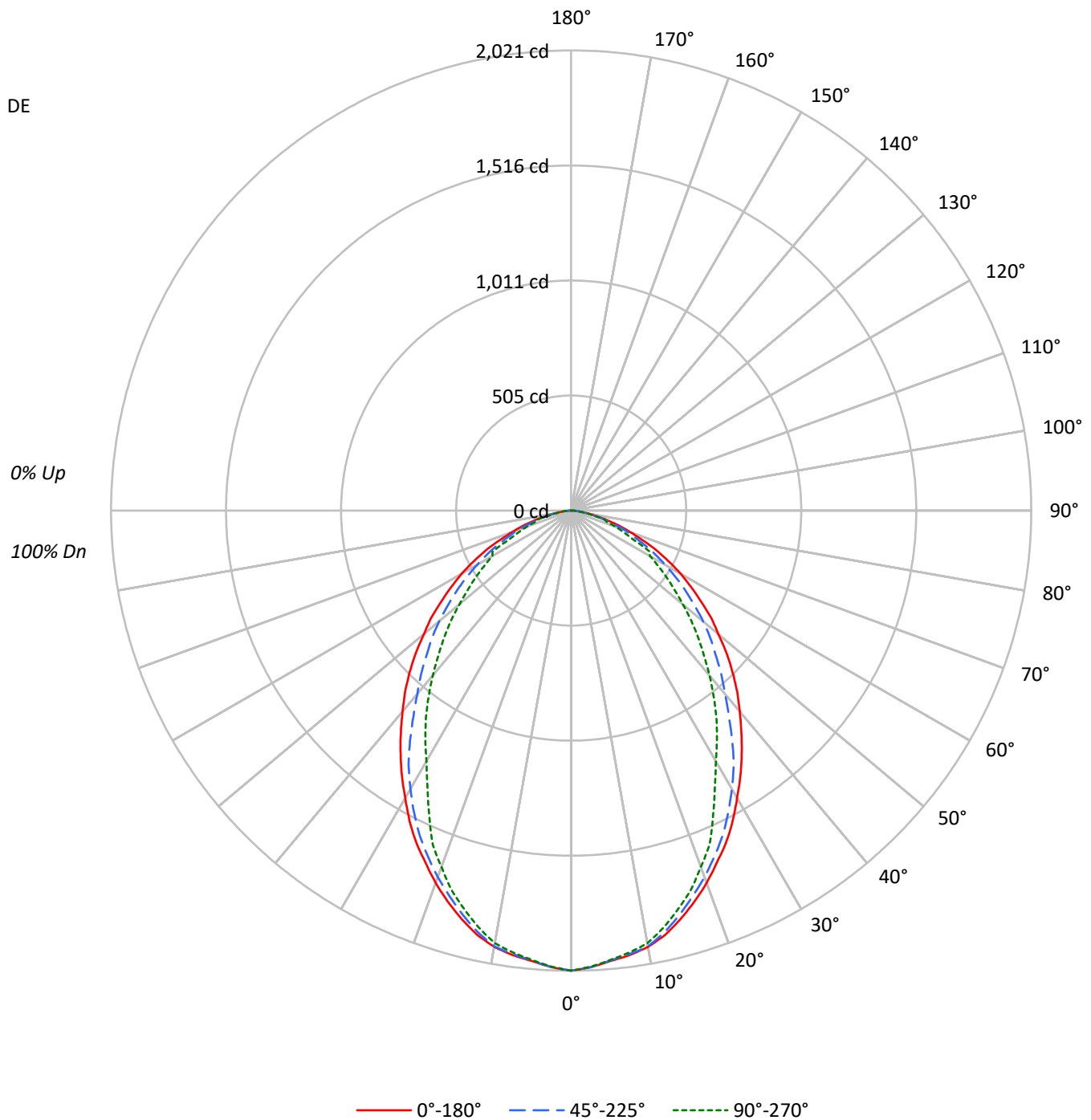
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2719	2719	2719
5°	2682	2679	2676
10°	2659	2655	2636
15°	2587	2561	2525
20°	2492	2452	2385
25°	2390	2337	2192
30°	2265	2192	1974
35°	2145	2026	1827
40°	2023	1847	1662
45°	1907	1707	1502
50°	1765	1584	1340
55°	1633	1436	1200
60°	1496	1283	1075
65°	1316	1123	952
70°	1085	983	809
75°	862	753	789
80°	580	543	507
85°	361	432	505

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1907 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	188.1	4.7
10°-20°	516.2	13.0
20°-30°	714.7	18.0
30°-40°	762.1	19.2
40°-50°	695.2	17.5
50°-60°	544.7	13.7
60°-70°	355.0	8.9
70°-80°	157.3	4.0
80°-90°	33.8	0.9
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°	1419.0	35.8
0°-40°	2181.1	55.0
0°-60°	3421.0	86.2
0°-90°	3967.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3967.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2021	2021	2021	2021	2021	
5°	1986	1983	1983	1981	1981	188
15°	1857	1857	1838	1820	1813	522
25°	1610	1600	1574	1518	1476	739
35°	1306	1296	1234	1140	1112	816
45°	1002	981	897	822	790	772
55°	696	675	612	540	512	624
65°	414	390	353	360	299	407
75°	166	154	145	138	152	178
85°	23	26	28	30	33	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2020.7	2020.7	2020.7	2020.7	2020.7
2.5°	2006.7	2006.7	2006.7	2004.4	2004.4
5°	1985.7	1983.4	1983.4	1981.0	1981.0
7.5°	1969.3	1967.0	1964.7	1962.3	1957.7
10°	1946.0	1946.0	1943.6	1932.0	1929.6
12.5°	1908.6	1906.3	1896.9	1880.6	1875.9
15°	1857.2	1857.2	1838.5	1819.8	1812.8
17.5°	1801.1	1798.8	1775.4	1756.8	1747.4
20°	1740.4	1735.7	1712.4	1682.0	1665.6
22.5°	1672.7	1672.7	1644.6	1604.9	1588.6
25°	1609.6	1600.2	1574.5	1518.5	1476.4
27.5°	1537.2	1523.1	1495.1	1415.7	1366.6
30°	1457.7	1450.7	1411.0	1308.2	1270.8
32.5°	1383.0	1371.3	1329.2	1221.8	1191.4
35°	1305.9	1296.5	1233.5	1140.0	1112.0
37.5°	1228.8	1217.1	1137.7	1062.9	1027.9
40°	1151.7	1137.7	1051.3	983.5	946.1
42.5°	1079.3	1060.6	976.5	904.1	862.0
45°	1002.2	981.2	897.1	822.3	789.6
47.5°	925.1	906.4	829.3	752.2	714.9
50°	843.3	827.0	756.9	679.8	640.1
52.5°	775.6	749.9	682.1	605.1	572.3
55°	696.2	675.1	612.1	539.6	511.6
57.5°	623.7	602.7	544.3	476.6	453.2
60°	556.0	525.6	476.6	418.2	399.5
62.5°	481.2	457.9	415.8	366.8	390.1
65°	413.5	390.1	352.8	359.8	299.0
67.5°	338.7	327.1	294.4	261.6	252.3
70°	275.7	261.6	250.0	214.9	205.6
72.5°	219.6	205.6	189.2	170.5	163.5
75°	165.9	154.2	144.8	137.8	151.8
77.5°	114.5	109.8	102.8	95.8	93.4
80°	74.8	72.4	70.1	67.7	65.4
82.5°	44.4	44.4	44.4	44.4	44.4
85°	23.4	25.7	28.0	30.4	32.7
87.5°	14.0	14.0	16.4	18.7	21.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)