

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: P562695

Luminaire Tested: FSR-24-4-LD4-2LO-35-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562695
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-35-UNV-81-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

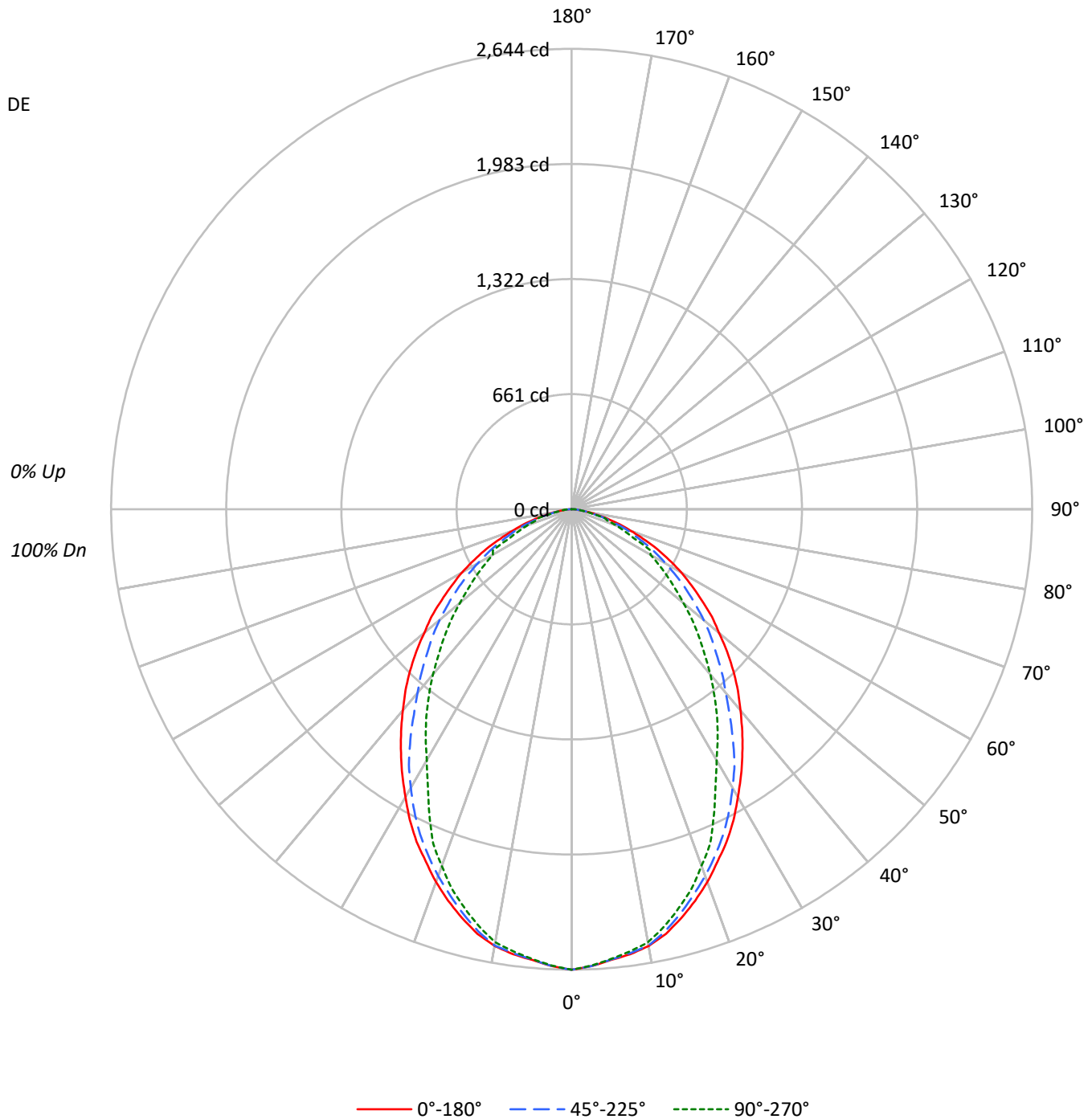
Lumens per Lamp: N/A
Luminaire Lumens: 5191.0 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100									100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3558	3558	3558
5°	3509	3505	3501
10°	3479	3475	3450
15°	3385	3351	3304
20°	3261	3208	3121
25°	3127	3059	2868
30°	2964	2869	2584
35°	2807	2651	2390
40°	2647	2416	2174
45°	2495	2234	1966
50°	2310	2073	1753
55°	2137	1879	1571
60°	1958	1678	1407
65°	1723	1470	1246
70°	1419	1287	1058
75°	1128	985	1033
80°	758	711	663
85°	472	567	661

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2495 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	246.1	4.7
10°-20°	675.5	13.0
20°-30°	935.2	18.0
30°-40°	997.2	19.2
40°-50°	909.7	17.5
50°-60°	712.7	13.7
60°-70°	464.5	8.9
70°-80°	205.8	4.0
80°-90°	44.2	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°	1856.9	35.8
0°-40°	2854.1	55.0
0°-60°	4476.5	86.2
0°-90°	5191.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5191.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2644	2644	2644	2644	2644	
5°	2598	2595	2595	2592	2592	247
15°	2430	2430	2406	2381	2372	683
25°	2106	2094	2060	1987	1932	967
35°	1709	1697	1614	1492	1455	1068
45°	1311	1284	1174	1076	1033	1010
55°	911	883	801	706	670	817
65°	541	510	462	471	391	533
75°	217	202	190	180	199	233
85°	31	34	37	40	43	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2644.2	2644.2	2644.2	2644.2	2644.2
2.5°	2625.9	2625.9	2625.9	2622.8	2622.8
5°	2598.4	2595.3	2595.3	2592.3	2592.3
7.5°	2577.0	2573.9	2570.9	2567.8	2561.7
10°	2546.4	2546.4	2543.3	2528.1	2525.0
12.5°	2497.5	2494.4	2482.2	2460.8	2454.7
15°	2430.2	2430.2	2405.8	2381.3	2372.2
17.5°	2356.9	2353.8	2323.3	2298.8	2286.6
20°	2277.4	2271.3	2240.7	2201.0	2179.6
22.5°	2188.7	2188.7	2152.1	2100.1	2078.7
25°	2106.2	2094.0	2060.4	1987.0	1932.0
27.5°	2011.4	1993.1	1956.4	1852.5	1788.3
30°	1907.5	1898.3	1846.4	1711.9	1663.0
32.5°	1809.7	1794.4	1739.4	1598.8	1559.0
35°	1708.8	1696.6	1614.0	1491.8	1455.1
37.5°	1607.9	1592.6	1488.7	1390.9	1345.0
40°	1507.1	1488.7	1375.6	1287.0	1238.0
42.5°	1412.3	1387.8	1277.8	1183.0	1128.0
45°	1311.4	1283.9	1173.9	1076.0	1033.2
47.5°	1210.5	1186.1	1085.2	984.3	935.4
50°	1103.5	1082.1	990.4	889.6	837.6
52.5°	1014.9	981.3	892.6	791.7	748.9
55°	911.0	883.4	800.9	706.1	669.5
57.5°	816.2	788.7	712.3	623.6	593.0
60°	727.5	687.8	623.6	547.2	522.7
62.5°	629.7	599.2	544.1	479.9	510.5
65°	541.1	510.5	461.6	470.8	391.3
67.5°	443.3	428.0	385.2	342.4	330.1
70°	360.7	342.4	327.1	281.2	269.0
72.5°	287.3	269.0	247.6	223.2	214.0
75°	217.0	201.8	189.5	180.4	198.7
77.5°	149.8	143.7	134.5	125.3	122.3
80°	97.8	94.8	91.7	88.7	85.6
82.5°	58.1	58.1	58.1	58.1	58.1
85°	30.6	33.6	36.7	39.7	42.8
87.5°	18.3	18.3	21.4	24.5	27.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)