

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: P590301

Luminaire Tested: FSR-24-2-LD4-2LO-50-UNV-81-84-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590301
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-LD4-2LO-50-UNV-81-84-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

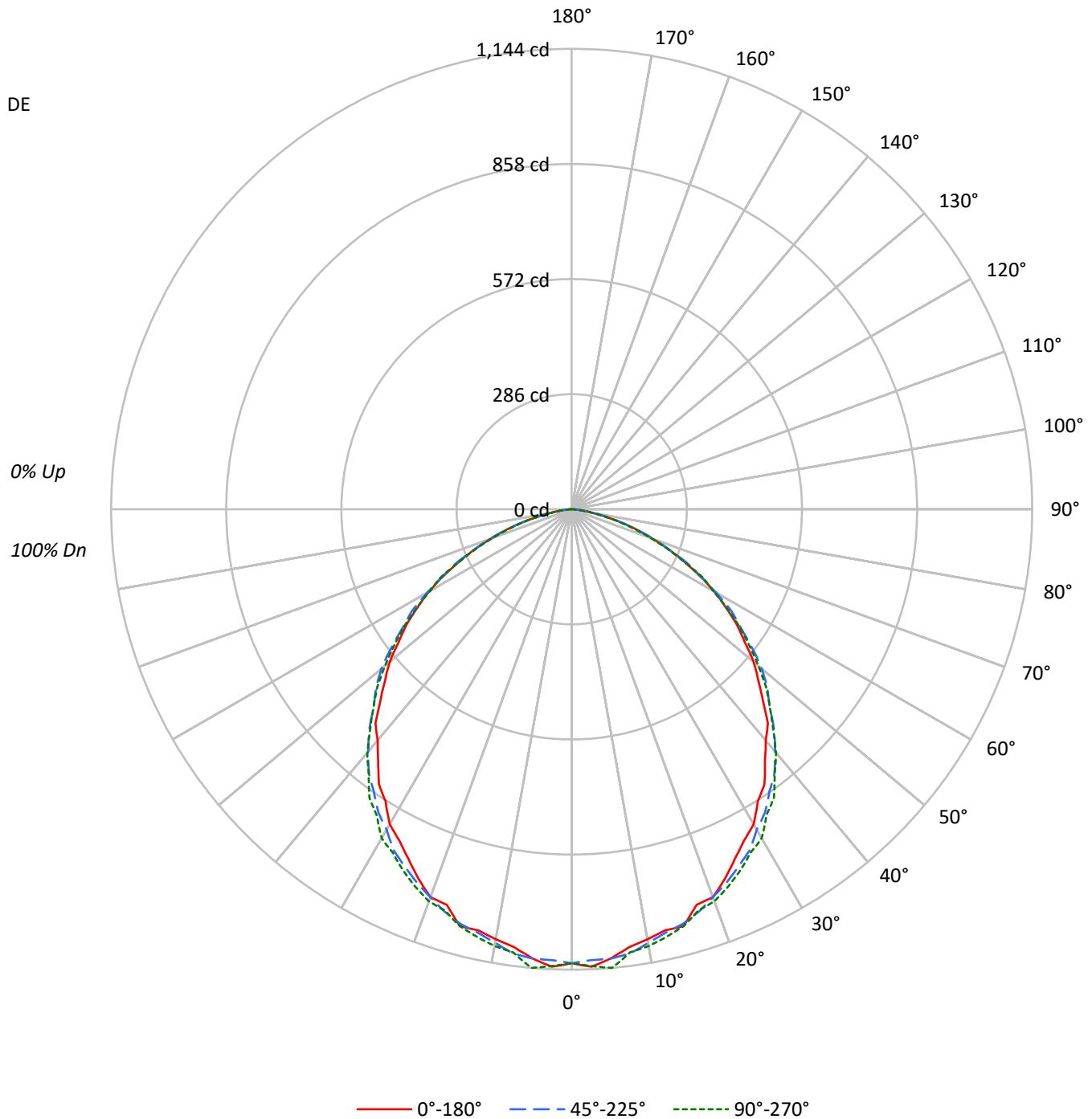
Lumens per Lamp: N/A
Luminaire Lumens: 2843.0 lumens
Efficiency: N/A
Efficacy: 121.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					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°	3035	3035	3035
5°	3025	3027	3091
10°	2964	2990	3011
15°	2988	2971	2988
20°	2937	2937	2968
25°	2847	2909	2941
30°	2808	2857	2933
35°	2742	2813	2876
40°	2635	2762	2774
45°	2555	2646	2650
50°	2471	2583	2534
55°	2355	2401	2383
60°	2202	2224	2184
65°	1963	2013	1949
70°	1685	1690	1644
75°	1334	1331	1280
80°	894	869	835
85°	485	482	451

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2714 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.1	3.7
10°-20°	300.7	10.6
20°-30°	450.5	15.8
30°-40°	534.0	18.8
40°-50°	535.0	18.8
50°-60°	454.1	16.0
60°-70°	306.2	10.8
70°-80°	134.5	4.7
80°-90°	21.8	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°	857.4	30.2
0°-40°	1391.4	48.9
0°-60°	2380.4	83.7
0°-90°	2843.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2843.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1128	1128	1128	1128	1128	
5°	1120	1117	1120	1117	1144	106
15°	1072	1060	1067	1072	1072	299
25°	959	964	980	993	990	443
35°	835	837	856	876	876	518
45°	671	684	695	713	696	519
55°	502	498	512	508	508	446
65°	308	304	316	304	306	307
75°	128	126	128	119	123	138
85°	16	15	16	15	15	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1128.0	1128.0	1128.0	1128.0	1128.0
2.5°	1137.8	1129.2	1121.2	1130.5	1136.2
5°	1120.0	1117.4	1120.5	1117.1	1144.1
7.5°	1097.0	1107.1	1112.9	1109.2	1110.8
10°	1084.8	1081.3	1094.2	1103.3	1102.0
12.5°	1071.7	1076.9	1077.6	1087.4	1088.3
15°	1072.4	1060.0	1066.6	1072.1	1072.5
17.5°	1030.7	1044.1	1048.7	1061.3	1045.6
20°	1025.6	1015.9	1025.6	1038.6	1036.6
22.5°	994.3	983.4	1004.4	1015.9	1015.2
25°	958.8	964.0	979.8	992.6	990.5
27.5°	927.6	933.7	956.2	973.8	962.4
30°	903.6	900.5	919.5	935.2	943.9
32.5°	860.6	871.7	893.8	909.4	901.1
35°	834.6	837.0	856.4	876.2	875.6
37.5°	789.0	800.5	827.7	833.2	828.1
40°	750.1	761.6	786.2	792.2	789.7
42.5°	721.4	723.4	744.5	751.4	740.5
45°	671.4	684.0	695.3	713.2	696.3
47.5°	628.9	634.7	659.2	664.0	655.1
50°	590.3	592.3	617.0	611.0	605.2
52.5°	541.8	550.4	564.2	563.1	556.2
55°	501.9	498.5	511.7	508.2	508.0
57.5°	454.0	459.8	470.6	465.0	456.2
60°	409.1	409.3	413.2	406.9	405.8
62.5°	359.2	360.9	361.8	354.1	366.6
65°	308.3	304.3	316.2	304.1	306.1
67.5°	261.6	263.6	262.5	254.9	257.8
70°	214.1	216.7	214.8	206.2	208.9
72.5°	170.7	167.5	169.5	158.8	163.7
75°	128.3	125.7	128.0	119.0	123.1
77.5°	87.4	89.4	88.0	83.2	85.9
80°	57.7	56.1	56.1	53.3	53.9
82.5°	33.6	32.0	31.6	30.7	32.0
85°	15.7	15.3	15.6	15.1	14.6
87.5°	5.7	5.8	5.8	5.5	5.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)