

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: P590270

Luminaire Tested: FSR-24-2-LD4-2LO-40-UNV-81-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590270
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-40-UNV-81-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

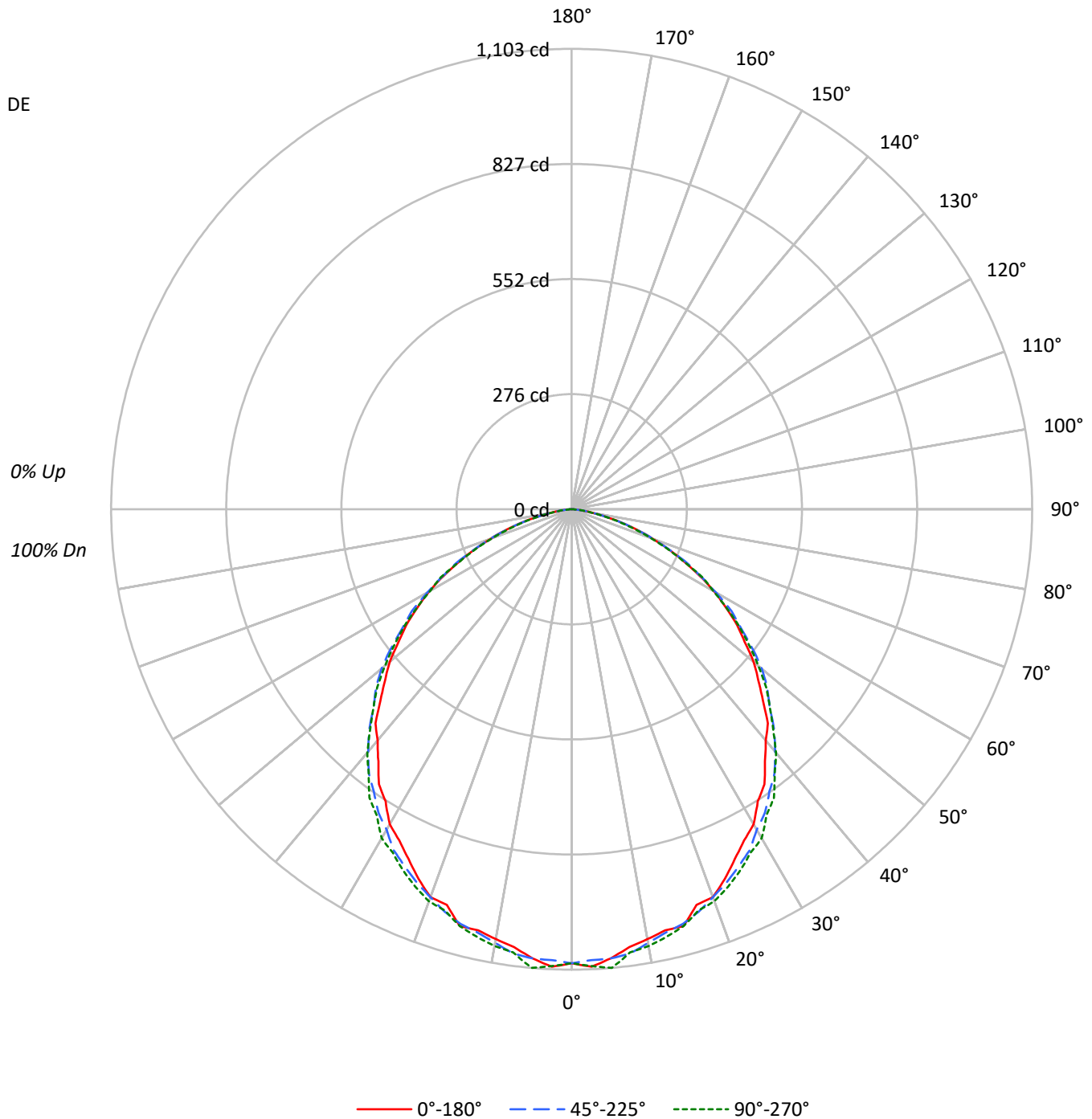
Lumens per Lamp: N/A
Luminaire Lumens: 2741.0 lumens
Efficiency: N/A
Efficacy: 117.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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	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°	2927	2927	2927
5°	2917	2918	2979
10°	2858	2883	2903
15°	2880	2865	2881
20°	2832	2832	2862
25°	2745	2805	2836
30°	2707	2755	2828
35°	2643	2712	2773
40°	2540	2663	2675
45°	2463	2551	2555
50°	2382	2490	2442
55°	2270	2314	2298
60°	2123	2144	2105
65°	1893	1941	1880
70°	1624	1629	1585
75°	1286	1283	1234
80°	862	838	806
85°	469	463	432

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2617 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.3	3.7
10°-20°	289.9	10.6
20°-30°	434.4	15.8
30°-40°	514.8	18.8
40°-50°	515.8	18.8
50°-60°	437.8	16.0
60°-70°	295.2	10.8
70°-80°	129.7	4.7
80°-90°	21.1	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°	826.6	30.2
0°-40°	1341.4	48.9
0°-60°	2295.1	83.7
0°-90°	2741.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2741.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1088	1088	1088	1088	1088	
5°	1080	1077	1080	1077	1103	102
15°	1034	1022	1028	1034	1034	288
25°	924	929	945	957	955	427
35°	805	807	826	845	844	500
45°	647	659	670	688	671	501
55°	484	481	493	490	490	430
65°	297	293	305	293	295	296
75°	124	121	123	115	119	133
85°	15	15	15	15	14	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1087.6	1087.6	1087.6	1087.6	1087.6
2.5°	1097.0	1088.7	1081.0	1089.9	1095.4
5°	1079.8	1077.3	1080.3	1077.0	1103.0
7.5°	1057.6	1067.3	1073.0	1069.4	1071.0
10°	1045.9	1042.5	1055.0	1063.7	1062.4
12.5°	1033.2	1038.3	1039.0	1048.4	1049.2
15°	1033.9	1022.0	1028.3	1033.6	1034.1
17.5°	993.8	1006.7	1011.0	1023.2	1008.1
20°	988.8	979.4	988.8	1001.3	999.4
22.5°	958.7	948.1	968.3	979.4	978.7
25°	924.4	929.4	944.6	957.0	955.0
27.5°	894.3	900.2	921.9	938.9	927.9
30°	871.2	868.2	886.5	901.6	910.1
32.5°	829.7	840.4	861.8	876.8	868.8
35°	804.6	807.0	825.7	844.8	844.2
37.5°	760.7	771.8	798.0	803.3	798.4
40°	723.2	734.3	758.0	763.7	761.4
42.5°	695.5	697.5	717.8	724.4	713.9
45°	647.3	659.4	670.4	687.6	671.4
47.5°	606.3	612.0	635.5	640.2	631.6
50°	569.1	571.1	594.8	589.1	583.4
52.5°	522.4	530.7	544.0	542.9	536.3
55°	483.9	480.7	493.3	489.9	489.8
57.5°	437.7	443.3	453.7	448.4	439.8
60°	394.4	394.6	398.4	392.3	391.2
62.5°	346.3	348.0	348.8	341.4	353.4
65°	297.3	293.3	304.9	293.2	295.2
67.5°	252.2	254.2	253.0	245.7	248.5
70°	206.4	208.9	207.1	198.8	201.4
72.5°	164.6	161.5	163.4	153.1	157.8
75°	123.7	121.2	123.4	114.7	118.7
77.5°	84.3	86.2	84.8	80.2	82.8
80°	55.6	54.1	54.1	51.4	52.0
82.5°	32.4	30.9	30.5	29.6	30.9
85°	15.2	14.7	15.0	14.6	14.0
87.5°	5.5	5.6	5.6	5.3	5.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)