

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: P561940

Luminaire Tested: FSR-24-2-LD4-1LO-35-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561940
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-24-2-LD4-1LO-35-UNV-82-86-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

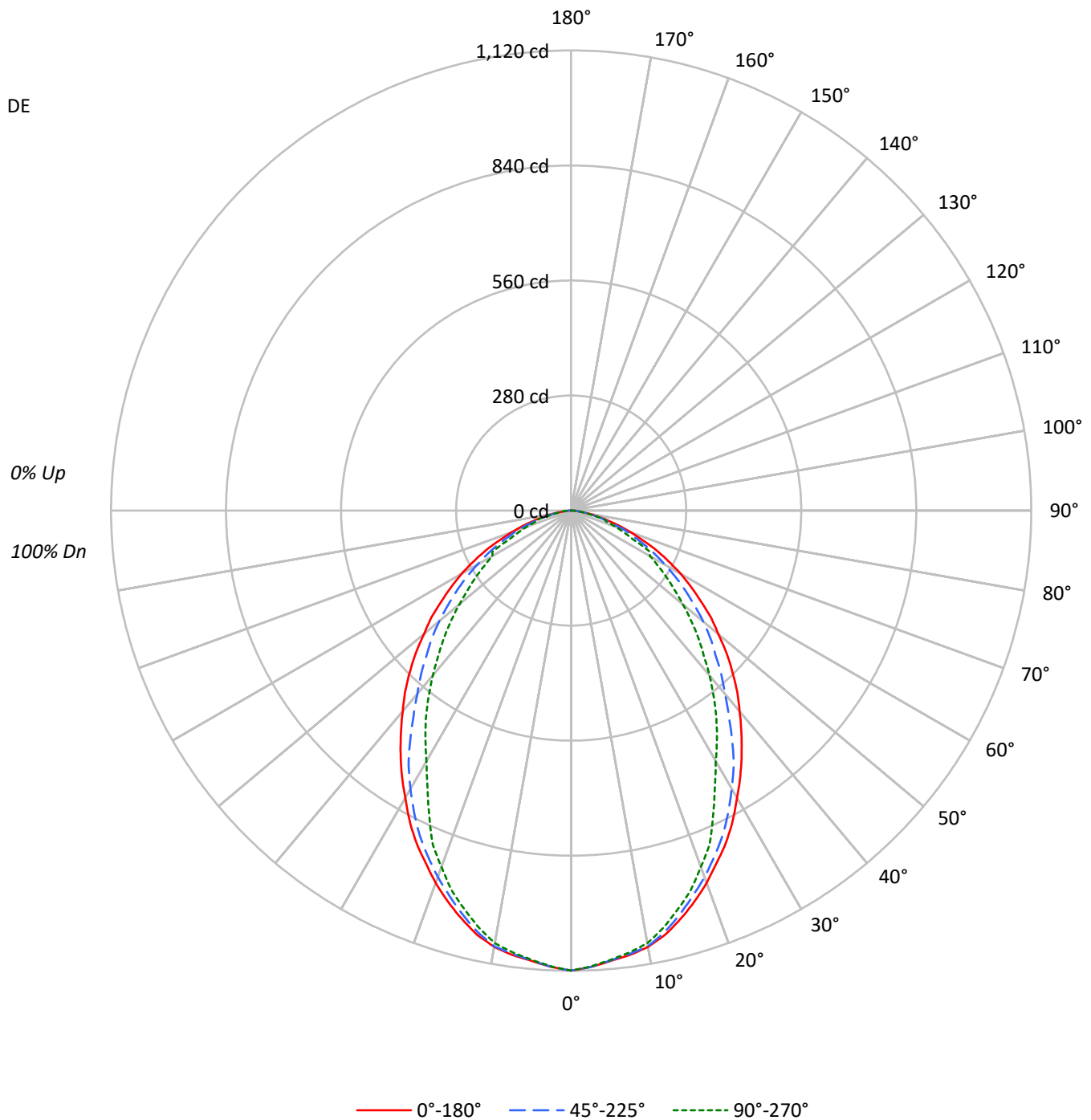
Lumens per Lamp: N/A
Luminaire Lumens: 2198.0 lumens
Efficiency: N/A
Efficacy: 93.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	1506	1506	1506
5°	1486	1484	1482
10°	1473	1471	1461
15°	1433	1419	1399
20°	1381	1359	1321
25°	1324	1295	1214
30°	1255	1215	1094
35°	1189	1123	1012
40°	1121	1023	921
45°	1057	946	832
50°	978	878	742
55°	905	795	665
60°	829	711	596
65°	729	622	528
70°	601	545	448
75°	478	417	437
80°	321	301	280
85°	199	239	279

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1057 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.2	4.7
10°-20°	286.0	13.0
20°-30°	396.0	18.0
30°-40°	422.2	19.2
40°-50°	385.2	17.5
50°-60°	301.8	13.7
60°-70°	196.7	8.9
70°-80°	87.1	4.0
80°-90°	18.7	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°	786.2	35.8
0°-40°	1208.5	55.0
0°-60°	1895.5	86.2
0°-90°	2198.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2198.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1120	1120	1120	1120	1120	
5°	1100	1099	1099	1098	1098	104
15°	1029	1029	1019	1008	1004	289
25°	892	887	872	841	818	409
35°	724	718	683	632	616	452
45°	555	544	497	456	438	428
55°	386	374	339	299	284	346
65°	229	216	196	199	166	226
75°	92	85	80	76	84	98
85°	13	14	16	17	18	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1119.6	1119.6	1119.6	1119.6	1119.6
2.5°	1111.9	1111.9	1111.9	1110.6	1110.6
5°	1100.2	1098.9	1098.9	1097.6	1097.6
7.5°	1091.2	1089.9	1088.6	1087.3	1084.7
10°	1078.2	1078.2	1076.9	1070.4	1069.2
12.5°	1057.5	1056.2	1051.0	1042.0	1039.4
15°	1029.0	1029.0	1018.7	1008.3	1004.4
17.5°	998.0	996.7	983.7	973.4	968.2
20°	964.3	961.7	948.8	931.9	922.9
22.5°	926.8	926.8	911.2	889.2	880.2
25°	891.8	886.6	872.4	841.3	818.0
27.5°	851.7	843.9	828.4	784.4	757.2
30°	807.7	803.8	781.8	724.8	704.1
32.5°	766.3	759.8	736.5	677.0	660.1
35°	723.6	718.4	683.4	631.7	616.1
37.5°	680.8	674.4	630.4	588.9	569.5
40°	638.1	630.4	582.5	544.9	524.2
42.5°	598.0	587.6	541.0	500.9	477.6
45°	555.3	543.6	497.0	455.6	437.5
47.5°	512.6	502.2	459.5	416.8	396.1
50°	467.3	458.2	419.4	376.7	354.7
52.5°	429.7	415.5	378.0	335.2	317.1
55°	385.7	374.1	339.1	299.0	283.5
57.5°	345.6	333.9	301.6	264.1	251.1
60°	308.1	291.2	264.1	231.7	221.3
62.5°	266.6	253.7	230.4	203.2	216.2
65°	229.1	216.2	195.5	199.3	165.7
67.5°	187.7	181.2	163.1	145.0	139.8
70°	152.7	145.0	138.5	119.1	113.9
72.5°	121.7	113.9	104.8	94.5	90.6
75°	91.9	85.4	80.3	76.4	84.1
77.5°	63.4	60.8	57.0	53.1	51.8
80°	41.4	40.1	38.8	37.5	36.2
82.5°	24.6	24.6	24.6	24.6	24.6
85°	12.9	14.2	15.5	16.8	18.1
87.5°	7.8	7.8	9.1	10.4	11.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)