

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: P561095

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561095
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-12-4-LD4-1LO-50-UNV-81-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

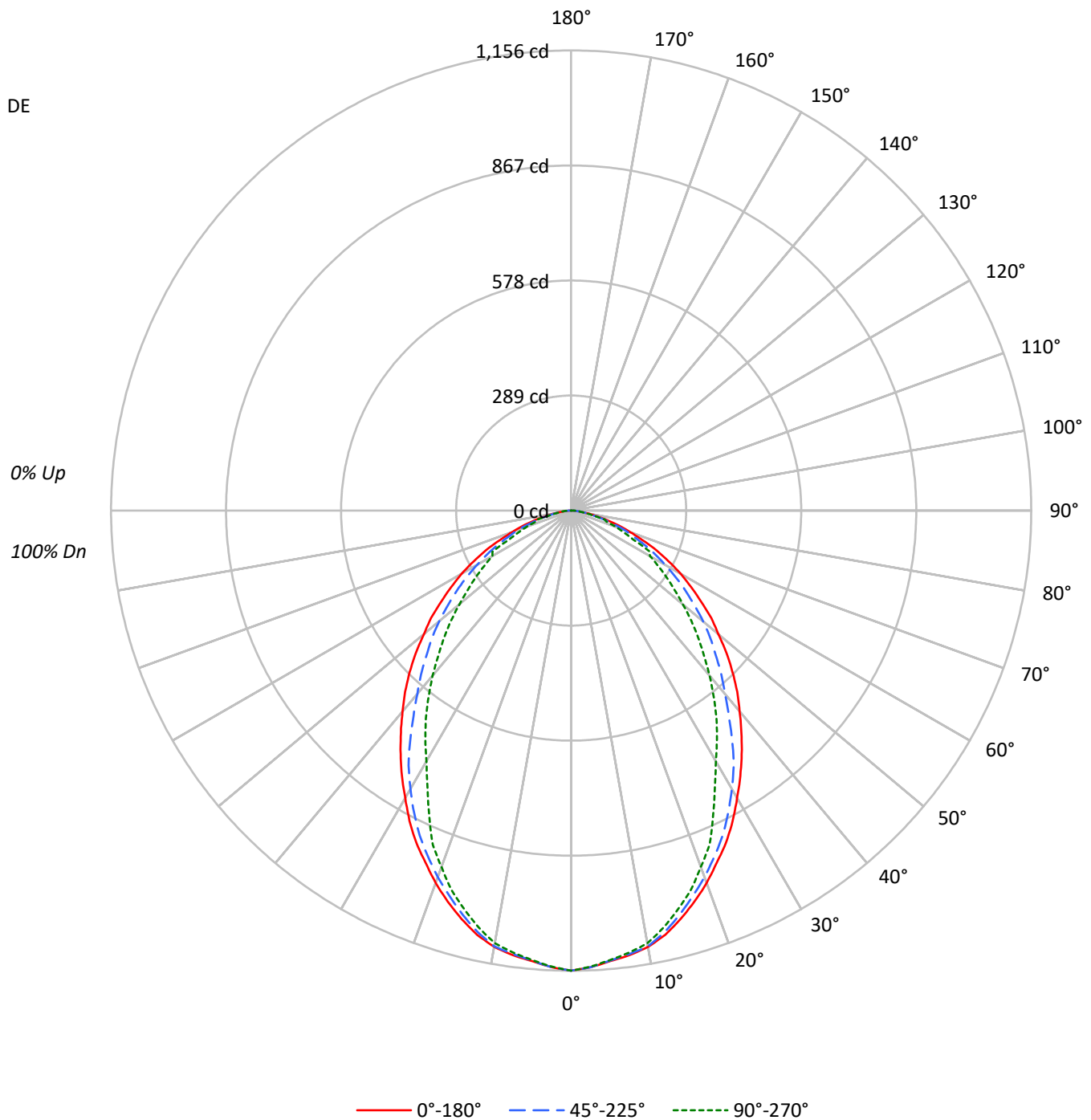
Lumens per Lamp: N/A
Luminaire Lumens: 2269.0 lumens
Efficiency: N/A
Efficacy: 97.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	3110	3110	3110
5°	3068	3064	3061
10°	3041	3038	3016
15°	2959	2930	2889
20°	2851	2805	2728
25°	2733	2674	2507
30°	2591	2508	2259
35°	2454	2318	2089
40°	2314	2112	1901
45°	2181	1953	1719
50°	2020	1812	1533
55°	1868	1643	1373
60°	1711	1467	1230
65°	1506	1285	1089
70°	1241	1125	925
75°	987	861	904
80°	663	621	580
85°	414	494	577

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2181 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.6	4.7
10°-20°	295.3	13.0
20°-30°	408.8	18.0
30°-40°	435.9	19.2
40°-50°	397.6	17.5
50°-60°	311.5	13.7
60°-70°	203.0	8.9
70°-80°	89.9	4.0
80°-90°	19.3	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°	811.6	35.8
0°-40°	1247.5	55.0
0°-60°	1956.7	86.2
0°-90°	2269.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2269.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1156	1156	1156	1156	1156	
5°	1136	1134	1134	1133	1133	108
15°	1062	1062	1052	1041	1037	299
25°	921	915	901	868	844	423
35°	747	742	706	652	636	467
45°	573	561	513	470	452	442
55°	398	386	350	309	293	357
65°	236	223	202	206	171	233
75°	95	88	83	79	87	102
85°	13	15	16	17	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1155.8	1155.8	1155.8	1155.8	1155.8
2.5°	1147.8	1147.8	1147.8	1146.4	1146.4
5°	1135.8	1134.4	1134.4	1133.1	1133.1
7.5°	1126.4	1125.1	1123.7	1122.4	1119.7
10°	1113.0	1113.0	1111.7	1105.0	1103.7
12.5°	1091.7	1090.3	1085.0	1075.6	1073.0
15°	1062.3	1062.3	1051.6	1040.9	1036.9
17.5°	1030.2	1028.9	1015.5	1004.8	999.5
20°	995.5	992.8	979.4	962.1	952.7
22.5°	956.7	956.7	940.7	918.0	908.6
25°	920.6	915.3	900.6	868.5	844.5
27.5°	879.2	871.2	855.2	809.7	781.7
30°	833.8	829.8	807.1	748.3	726.9
32.5°	791.0	784.3	760.3	698.8	681.5
35°	746.9	741.6	705.5	652.1	636.0
37.5°	702.8	696.2	650.7	608.0	587.9
40°	658.7	650.7	601.3	562.5	541.2
42.5°	617.3	606.6	558.5	517.1	493.1
45°	573.2	561.2	513.1	470.3	451.6
47.5°	529.1	518.4	474.3	430.3	408.9
50°	482.4	473.0	432.9	388.8	366.1
52.5°	443.6	428.9	390.2	346.1	327.4
55°	398.2	386.2	350.1	308.7	292.6
57.5°	356.8	344.7	311.3	272.6	259.2
60°	318.0	300.6	272.6	239.2	228.5
62.5°	275.3	261.9	237.8	209.8	223.1
65°	236.5	223.1	201.8	205.8	171.0
67.5°	193.7	187.1	168.4	149.7	144.3
70°	157.7	149.7	143.0	122.9	117.6
72.5°	125.6	117.6	108.2	97.5	93.5
75°	94.9	88.2	82.8	78.8	86.9
77.5°	65.5	62.8	58.8	54.8	53.4
80°	42.8	41.4	40.1	38.7	37.4
82.5°	25.4	25.4	25.4	25.4	25.4
85°	13.4	14.7	16.0	17.4	18.7
87.5°	8.0	8.0	9.4	10.7	12.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)