

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: P561351

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561351
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-LD4-2HI-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

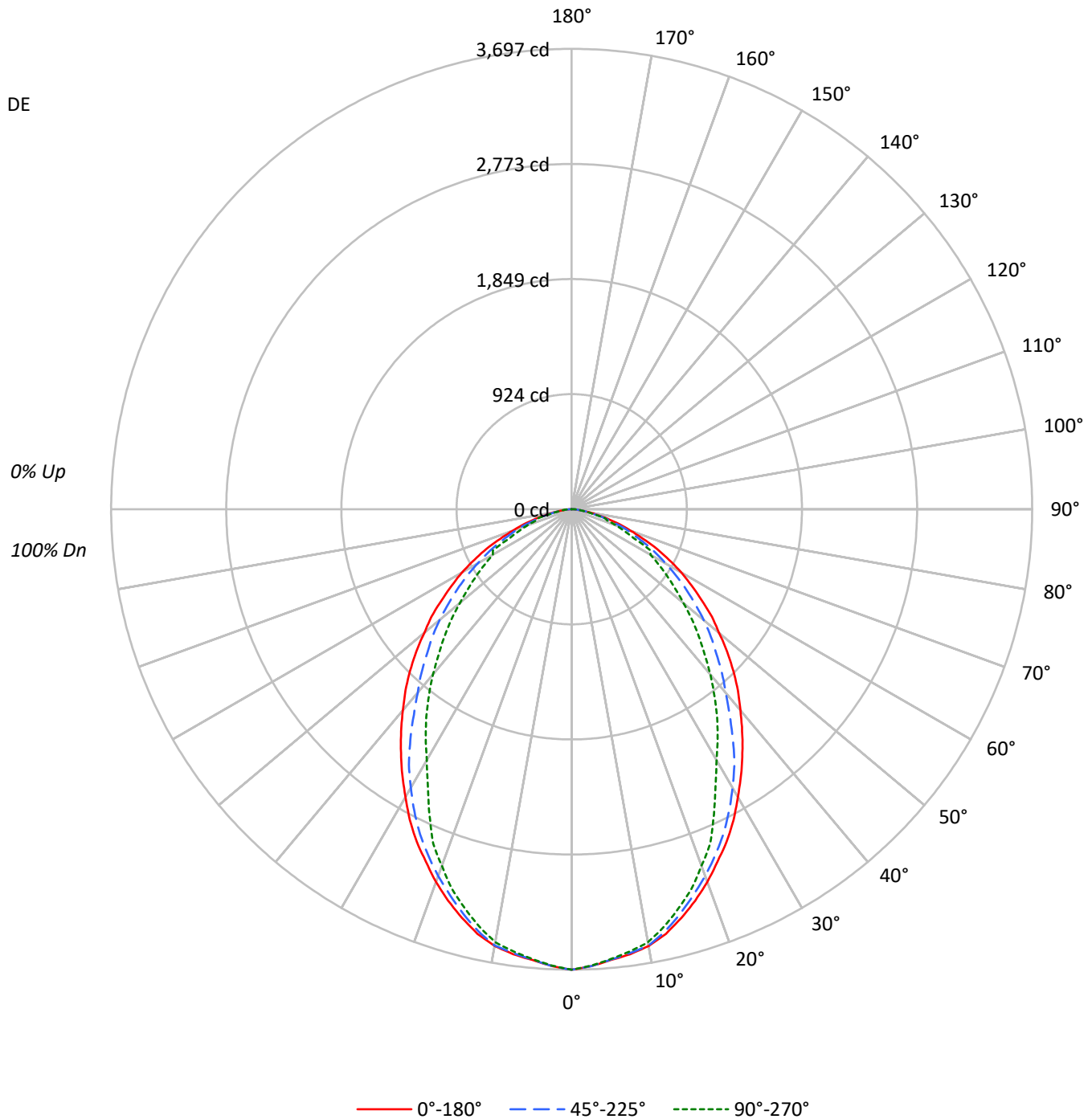
Lumens per Lamp: N/A
Luminaire Lumens: 7258.0 lumens
Efficiency: N/A
Efficacy: 84.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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	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°	9949	9949	9949
5°	9814	9802	9791
10°	9729	9717	9647
15°	9466	9371	9240
20°	9119	8972	8727
25°	8744	8554	8021
30°	8287	8022	7225
35°	7849	7413	6683
40°	7402	6757	6081
45°	6978	6246	5498
50°	6460	5797	4903
55°	5976	5254	4391
60°	5475	4693	3934
65°	4817	4110	3484
70°	3968	3598	2959
75°	3156	2755	2888
80°	2120	1987	1855
85°	1318	1584	1846

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6978 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	344.2	4.7
10°-20°	944.5	13.0
20°-30°	1307.6	18.0
30°-40°	1394.3	19.2
40°-50°	1272.0	17.5
50°-60°	996.5	13.7
60°-70°	649.5	8.9
70°-80°	287.7	4.0
80°-90°	61.8	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°	2596.2	35.8
0°-40°	3990.5	55.0
0°-60°	6259.0	86.2
0°-90°	7258.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7258.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3697	3697	3697	3697	3697	
5°	3633	3629	3629	3624	3624	345
15°	3398	3398	3364	3330	3317	955
25°	2945	2928	2881	2778	2701	1352
35°	2389	2372	2257	2086	2034	1494
45°	1834	1795	1641	1504	1445	1412
55°	1274	1235	1120	987	936	1142
65°	756	714	645	658	547	746
75°	304	282	265	252	278	325
85°	43	47	51	56	60	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3697.1	3697.1	3697.1	3697.1	3697.1
2.5°	3671.5	3671.5	3671.5	3667.2	3667.2
5°	3633.0	3628.7	3628.7	3624.5	3624.5
7.5°	3603.1	3598.8	3594.5	3590.3	3581.7
10°	3560.4	3560.4	3556.1	3534.7	3530.4
12.5°	3492.0	3487.7	3470.6	3440.7	3432.1
15°	3397.9	3397.9	3363.7	3329.6	3316.7
17.5°	3295.4	3291.1	3248.3	3214.2	3197.1
20°	3184.2	3175.7	3132.9	3077.4	3047.5
22.5°	3060.3	3060.3	3009.0	2936.3	2906.4
25°	2944.9	2927.8	2880.8	2778.2	2701.3
27.5°	2812.4	2786.7	2735.4	2590.1	2500.4
30°	2667.1	2654.2	2581.6	2393.5	2325.1
32.5°	2530.3	2508.9	2432.0	2235.4	2179.8
35°	2389.2	2372.1	2256.7	2085.8	2034.5
37.5°	2248.2	2226.8	2081.5	1944.7	1880.6
40°	2107.1	2081.5	1923.4	1799.4	1731.0
42.5°	1974.7	1940.5	1786.6	1654.1	1577.2
45°	1833.6	1795.1	1641.3	1504.5	1444.7
47.5°	1692.6	1658.4	1517.3	1376.3	1307.9
50°	1543.0	1513.0	1384.8	1243.8	1171.1
52.5°	1419.0	1372.0	1248.0	1107.0	1047.2
55°	1273.7	1235.2	1119.8	987.3	936.0
57.5°	1141.2	1102.7	995.9	871.9	829.2
60°	1017.2	961.7	871.9	765.1	730.9
62.5°	880.5	837.7	760.8	671.0	713.8
65°	756.5	713.8	645.4	658.2	547.1
67.5°	619.7	598.4	538.5	478.7	461.6
70°	504.3	478.7	457.3	393.2	376.1
72.5°	401.8	376.1	346.2	312.0	299.2
75°	303.5	282.1	265.0	252.2	277.8
77.5°	209.4	200.9	188.1	175.2	171.0
80°	136.8	132.5	128.2	123.9	119.7
82.5°	81.2	81.2	81.2	81.2	81.2
85°	42.7	47.0	51.3	55.6	59.8
87.5°	25.6	25.6	29.9	34.2	38.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)