

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: P563412

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563412
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-24-4-LD4-3LO-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7041.0 lumens
Efficiency: N/A
Efficacy: 100.3 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

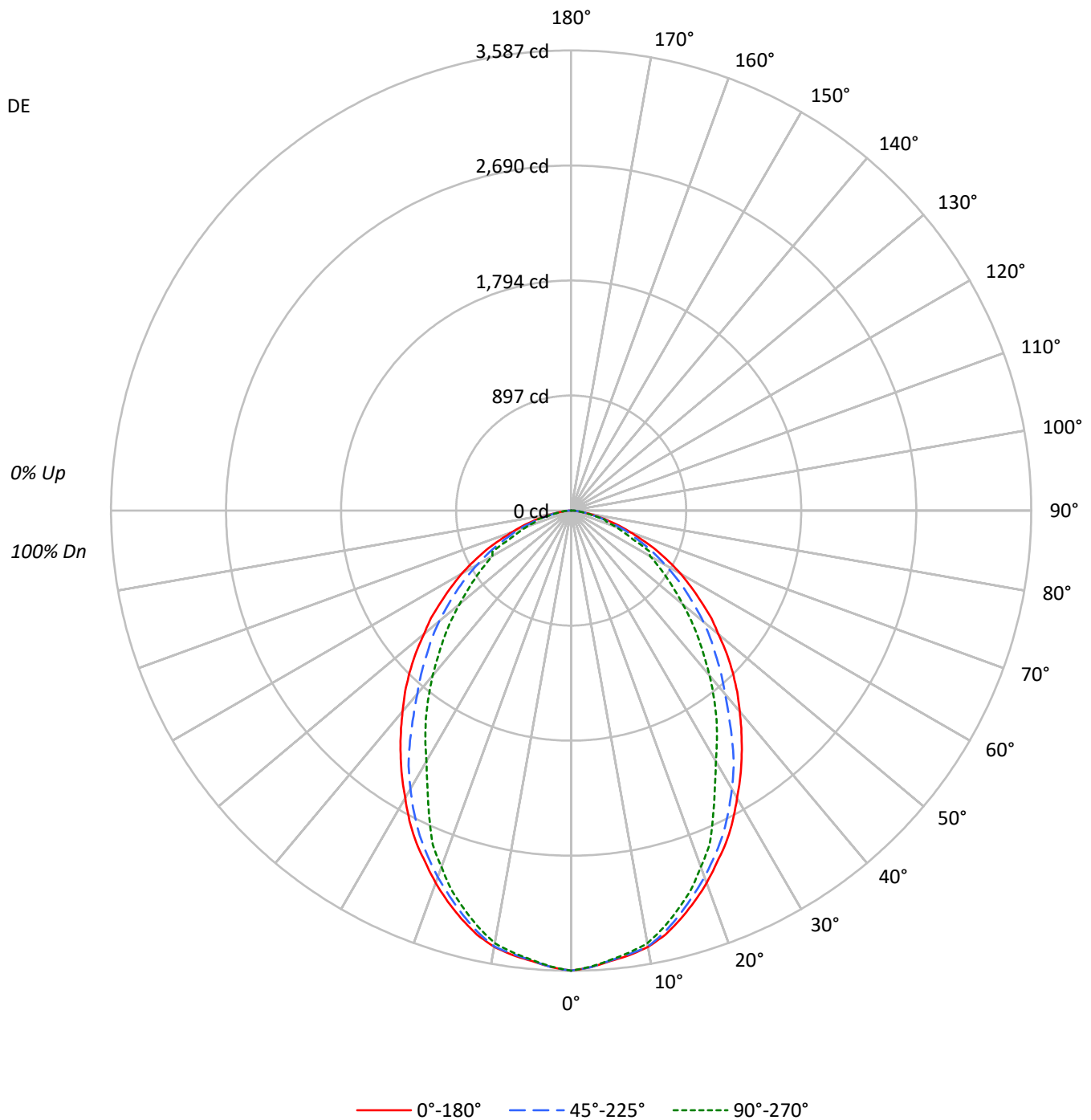
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4826	4826	4826
5°	4760	4754	4749
10°	4719	4713	4679
15°	4592	4545	4482
20°	4423	4352	4233
25°	4241	4149	3890
30°	4020	3891	3504
35°	3807	3596	3242
40°	3590	3277	2950
45°	3385	3030	2667
50°	3133	2812	2378
55°	2898	2548	2130
60°	2655	2276	1908
65°	2337	1993	1690
70°	1925	1745	1435
75°	1530	1337	1401
80°	1028	964	900
85°	641	769	895

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3385 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	333.9	4.7
10°-20°	916.3	13.0
20°-30°	1268.5	18.0
30°-40°	1352.6	19.2
40°-50°	1234.0	17.5
50°-60°	966.7	13.7
60°-70°	630.1	8.9
70°-80°	279.2	4.0
80°-90°	59.9	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°	2518.6	35.8
0°-40°	3871.2	55.0
0°-60°	6071.9	86.2
0°-90°	7041.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7041.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3587	3587	3587	3587	3587	
5°	3524	3520	3520	3516	3516	335
15°	3296	3296	3263	3230	3218	927
25°	2857	2840	2795	2695	2620	1312
35°	2318	2301	2189	2023	1974	1449
45°	1779	1742	1592	1460	1402	1370
55°	1236	1198	1086	958	908	1108
65°	734	692	626	638	531	723
75°	294	274	257	245	270	316
85°	42	46	50	54	58	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3586.6	3586.6	3586.6	3586.6	3586.6
2.5°	3561.7	3561.7	3561.7	3557.6	3557.6
5°	3524.4	3520.2	3520.2	3516.1	3516.1
7.5°	3495.4	3491.2	3487.1	3482.9	3474.6
10°	3453.9	3453.9	3449.8	3429.0	3424.9
12.5°	3387.6	3383.4	3366.8	3337.8	3329.5
15°	3296.3	3296.3	3263.2	3230.0	3217.6
17.5°	3196.8	3192.7	3151.2	3118.1	3101.5
20°	3089.0	3080.7	3039.3	2985.4	2956.3
22.5°	2968.8	2968.8	2919.0	2848.5	2819.5
25°	2856.8	2840.2	2794.6	2695.1	2620.5
27.5°	2728.3	2703.4	2653.7	2512.7	2425.6
30°	2587.3	2574.9	2504.4	2322.0	2255.6
32.5°	2454.6	2433.9	2359.3	2168.5	2114.6
35°	2317.8	2301.2	2189.3	2023.4	1973.7
37.5°	2181.0	2160.2	2019.3	1886.6	1824.4
40°	2044.1	2019.3	1865.9	1745.6	1679.3
42.5°	1915.6	1882.4	1733.2	1604.6	1530.0
45°	1778.8	1741.5	1592.2	1459.5	1401.5
47.5°	1642.0	1608.8	1472.0	1335.1	1268.8
50°	1496.8	1467.8	1343.4	1206.6	1136.1
52.5°	1376.6	1331.0	1210.7	1073.9	1015.9
55°	1235.6	1198.3	1086.3	957.8	908.1
57.5°	1107.1	1069.8	966.1	845.9	804.4
60°	986.8	932.9	845.9	742.2	709.0
62.5°	854.1	812.7	738.1	651.0	692.4
65°	733.9	692.4	626.1	638.5	530.7
67.5°	601.2	580.5	522.4	464.4	447.8
70°	489.3	464.4	443.7	381.5	364.9
72.5°	389.8	364.9	335.9	302.7	290.2
75°	294.4	273.7	257.1	244.6	269.5
77.5°	203.2	194.9	182.4	170.0	165.9
80°	132.7	128.5	124.4	120.2	116.1
82.5°	78.8	78.8	78.8	78.8	78.8
85°	41.5	45.6	49.8	53.9	58.0
87.5°	24.9	24.9	29.0	33.2	37.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)