

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: P563800

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563800
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-LD4-4HI-50-UNV-82-88-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13435.0 lumens
Efficiency: N/A
Efficacy: 77.7 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

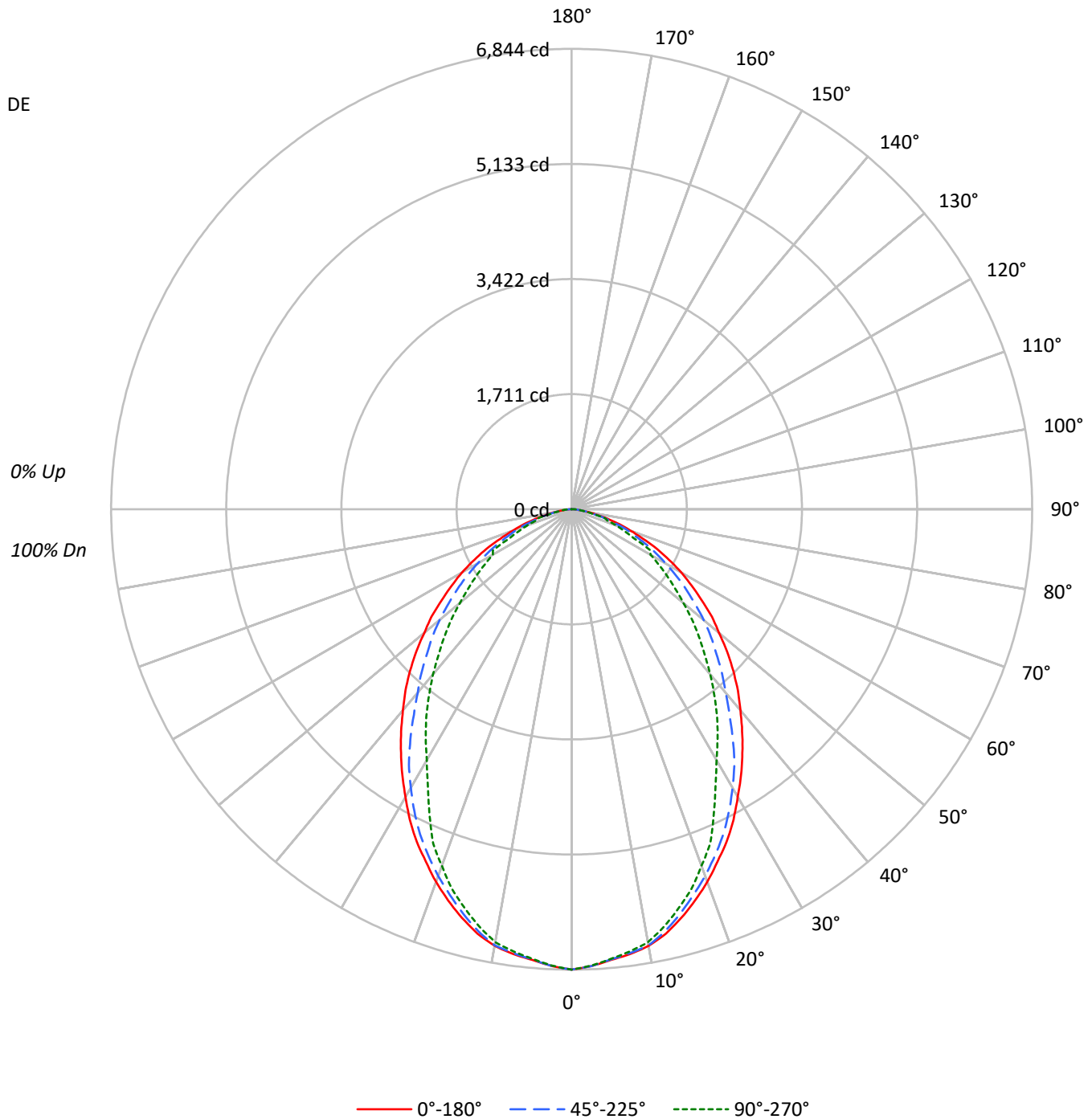
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9208	9208	9208
5°	9083	9072	9062
10°	9004	8993	8929
15°	8761	8673	8552
20°	8440	8304	8077
25°	8093	7917	7423
30°	7670	7424	6687
35°	7264	6862	6186
40°	6851	6253	5628
45°	6458	5781	5088
50°	5978	5366	4538
55°	5531	4863	4065
60°	5067	4343	3641
65°	4458	3804	3224
70°	3673	3330	2739
75°	2920	2550	2674
80°	1962	1839	1716
85°	1221	1465	1711

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6458 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	637.0	4.7
10°-20°	1748.3	13.0
20°-30°	2420.4	18.0
30°-40°	2580.9	19.2
40°-50°	2354.5	17.5
50°-60°	1844.6	13.7
60°-70°	1202.2	8.9
70°-80°	532.6	4.0
80°-90°	114.4	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°	4805.8	35.8
0°-40°	7386.7	55.0
0°-60°	11585.8	86.2
0°-90°	13435.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13435.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6844	6844	6844	6844	6844	
5°	6725	6717	6717	6709	6709	638
15°	6290	6290	6226	6163	6140	1768
25°	5451	5420	5332	5143	5000	2503
35°	4423	4391	4177	3861	3766	2765
45°	3394	3323	3038	2785	2674	2614
55°	2358	2286	2073	1828	1733	2115
65°	1400	1321	1195	1218	1013	1380
75°	562	522	490	467	514	602
85°	79	87	95	103	111	110
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6843.6	6843.6	6843.6	6843.6	6843.6
2.5°	6796.1	6796.1	6796.1	6788.2	6788.2
5°	6724.9	6717.0	6717.0	6709.1	6709.1
7.5°	6669.6	6661.6	6653.7	6645.8	6630.0
10°	6590.4	6590.4	6582.5	6543.0	6535.1
12.5°	6463.8	6455.9	6424.3	6368.9	6353.1
15°	6289.8	6289.8	6226.5	6163.2	6139.5
17.5°	6099.9	6092.0	6012.9	5949.6	5917.9
20°	5894.2	5878.4	5799.3	5696.4	5641.0
22.5°	5664.8	5664.8	5569.8	5435.3	5379.9
25°	5451.2	5419.5	5332.5	5142.6	5000.2
27.5°	5205.9	5158.4	5063.5	4794.5	4628.3
30°	4936.9	4913.2	4778.7	4430.5	4304.0
32.5°	4683.7	4644.2	4501.8	4137.8	4035.0
35°	4422.6	4391.0	4177.4	3860.9	3766.0
37.5°	4161.5	4122.0	3853.0	3599.8	3481.1
40°	3900.5	3853.0	3560.3	3330.8	3204.2
42.5°	3655.2	3591.9	3307.1	3061.8	2919.4
45°	3394.1	3322.9	3038.1	2784.9	2674.2
47.5°	3133.0	3069.7	2808.6	2547.6	2421.0
50°	2856.1	2800.7	2563.4	2302.3	2167.8
52.5°	2626.7	2539.7	2310.2	2049.1	1938.4
55°	2357.7	2286.5	2072.9	1827.6	1732.7
57.5°	2112.4	2041.2	1843.4	1614.0	1534.9
60°	1883.0	1780.1	1614.0	1416.2	1352.9
62.5°	1629.8	1550.7	1408.3	1242.1	1321.3
65°	1400.4	1321.3	1194.7	1218.4	1012.7
67.5°	1147.2	1107.6	996.9	886.1	854.5
70°	933.6	886.1	846.6	727.9	696.2
72.5°	743.7	696.2	640.8	577.6	553.8
75°	561.7	522.2	490.5	466.8	514.3
77.5°	387.7	371.8	348.1	324.4	316.5
80°	253.2	245.3	237.4	229.4	221.5
82.5°	150.3	150.3	150.3	150.3	150.3
85°	79.1	87.0	94.9	102.9	110.8
87.5°	47.5	47.5	55.4	63.3	71.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)