

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: P563209

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-81-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563209
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-LD4-3HI-50-UNV-81-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11831.0 lumens
Efficiency: N/A
Efficacy: 91.3 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

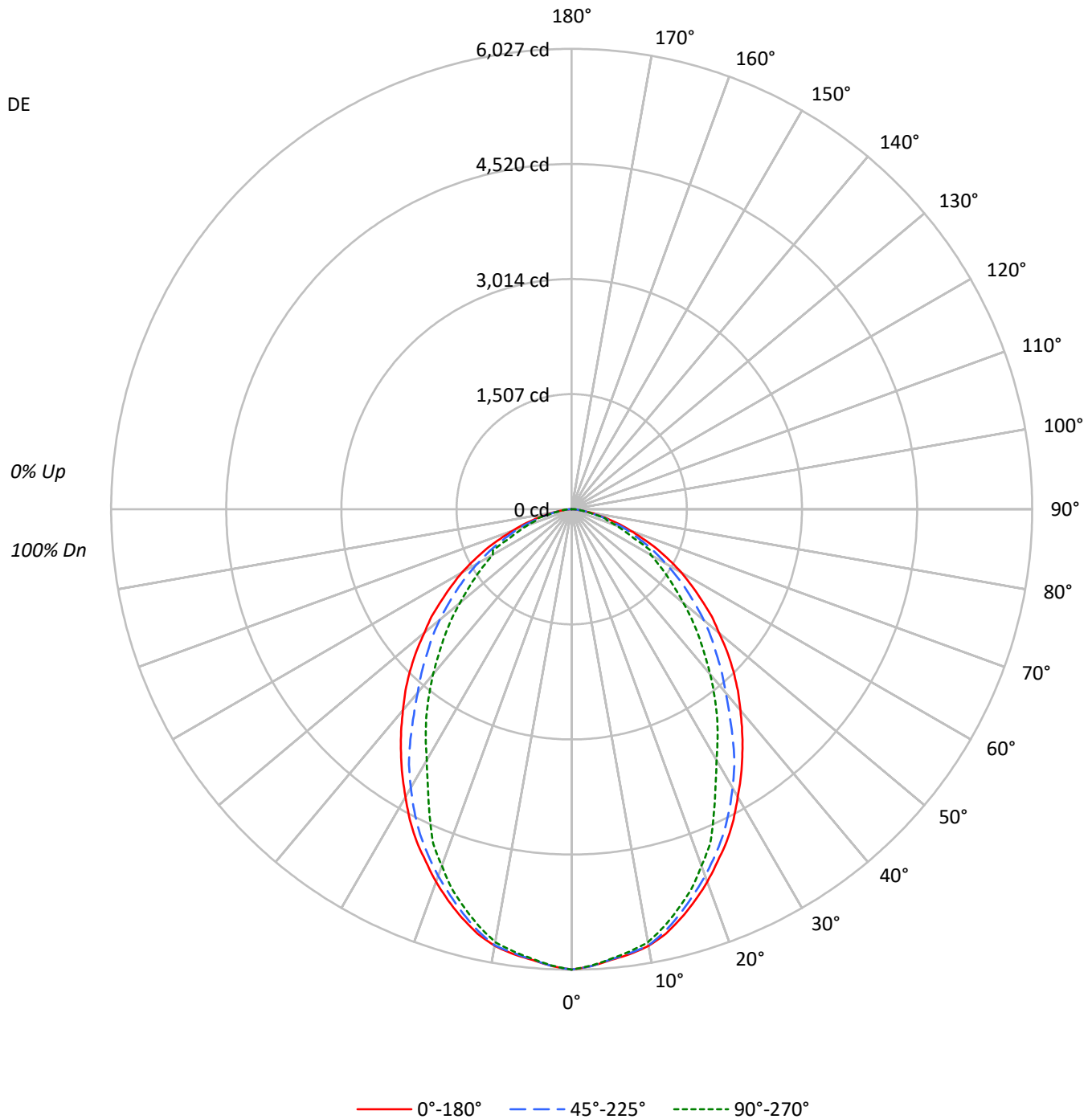
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8109	8109	8109
5°	7998	7989	7980
10°	7929	7920	7862
15°	7715	7638	7531
20°	7432	7312	7113
25°	7126	6971	6537
30°	6754	6538	5888
35°	6397	6042	5447
40°	6033	5507	4956
45°	5687	5091	4481
50°	5265	4725	3996
55°	4870	4282	3579
60°	4462	3825	3206
65°	3926	3349	2839
70°	3234	2933	2412
75°	2572	2246	2354
80°	1727	1619	1512
85°	1076	1291	1505

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5687 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	561.0	4.7
10°-20°	1539.6	13.0
20°-30°	2131.5	18.0
30°-40°	2272.8	19.2
40°-50°	2073.4	17.5
50°-60°	1624.4	13.7
60°-70°	1058.7	8.9
70°-80°	469.1	4.0
80°-90°	100.7	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°	4232.1	35.8
0°-40°	6504.8	55.0
0°-60°	10202.6	86.2
0°-90°	11831.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11831.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6027	6027	6027	6027	6027	
5°	5922	5915	5915	5908	5908	562
15°	5539	5539	5483	5427	5406	1557
25°	4800	4772	4696	4529	4403	2204
35°	3895	3867	3679	3400	3316	2435
45°	2989	2926	2675	2452	2355	2302
55°	2076	2014	1825	1609	1526	1862
65°	1233	1164	1052	1073	892	1215
75°	495	460	432	411	453	530
85°	70	77	84	91	98	97
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6026.6	6026.6	6026.6	6026.6	6026.6
2.5°	5984.8	5984.8	5984.8	5977.8	5977.8
5°	5922.0	5915.1	5915.1	5908.1	5908.1
7.5°	5873.3	5866.3	5859.3	5852.4	5838.4
10°	5803.6	5803.6	5796.6	5761.8	5754.8
12.5°	5692.1	5685.2	5657.3	5608.5	5594.6
15°	5538.9	5538.9	5483.1	5427.4	5406.5
17.5°	5371.6	5364.7	5295.0	5239.3	5211.4
20°	5190.5	5176.6	5106.9	5016.3	4967.6
22.5°	4988.5	4988.5	4904.8	4786.4	4737.6
25°	4800.3	4772.5	4695.8	4528.6	4403.2
27.5°	4584.4	4542.6	4459.0	4222.1	4075.8
30°	4347.5	4326.6	4208.1	3901.6	3790.1
32.5°	4124.5	4089.7	3964.3	3643.8	3553.2
35°	3894.6	3866.7	3678.6	3400.0	3316.3
37.5°	3664.7	3629.9	3393.0	3170.0	3065.5
40°	3434.8	3393.0	3135.2	2933.2	2821.7
42.5°	3218.8	3163.1	2912.3	2696.3	2570.9
45°	2988.9	2926.2	2675.4	2452.4	2354.9
47.5°	2759.0	2703.2	2473.3	2243.4	2131.9
50°	2515.1	2466.4	2257.3	2027.4	1909.0
52.5°	2313.1	2236.4	2034.4	1804.5	1706.9
55°	2076.2	2013.5	1825.4	1609.4	1525.8
57.5°	1860.2	1797.5	1623.3	1421.3	1351.6
60°	1658.2	1567.6	1421.3	1247.1	1191.4
62.5°	1435.2	1365.6	1240.1	1093.8	1163.5
65°	1233.2	1163.5	1052.0	1072.9	891.8
67.5°	1010.2	975.4	877.9	780.3	752.4
70°	822.1	780.3	745.5	641.0	613.1
72.5°	654.9	613.1	564.3	508.6	487.7
75°	494.7	459.8	432.0	411.1	452.9
77.5°	341.4	327.5	306.6	285.7	278.7
80°	222.9	216.0	209.0	202.0	195.1
82.5°	132.4	132.4	132.4	132.4	132.4
85°	69.7	76.6	83.6	90.6	97.5
87.5°	41.8	41.8	48.8	55.7	62.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)