

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: P564176

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564176
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-LD4-4STD-50-UNV-82-84-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12972.0 lumens
Efficiency: N/A
Efficacy: 97.4 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

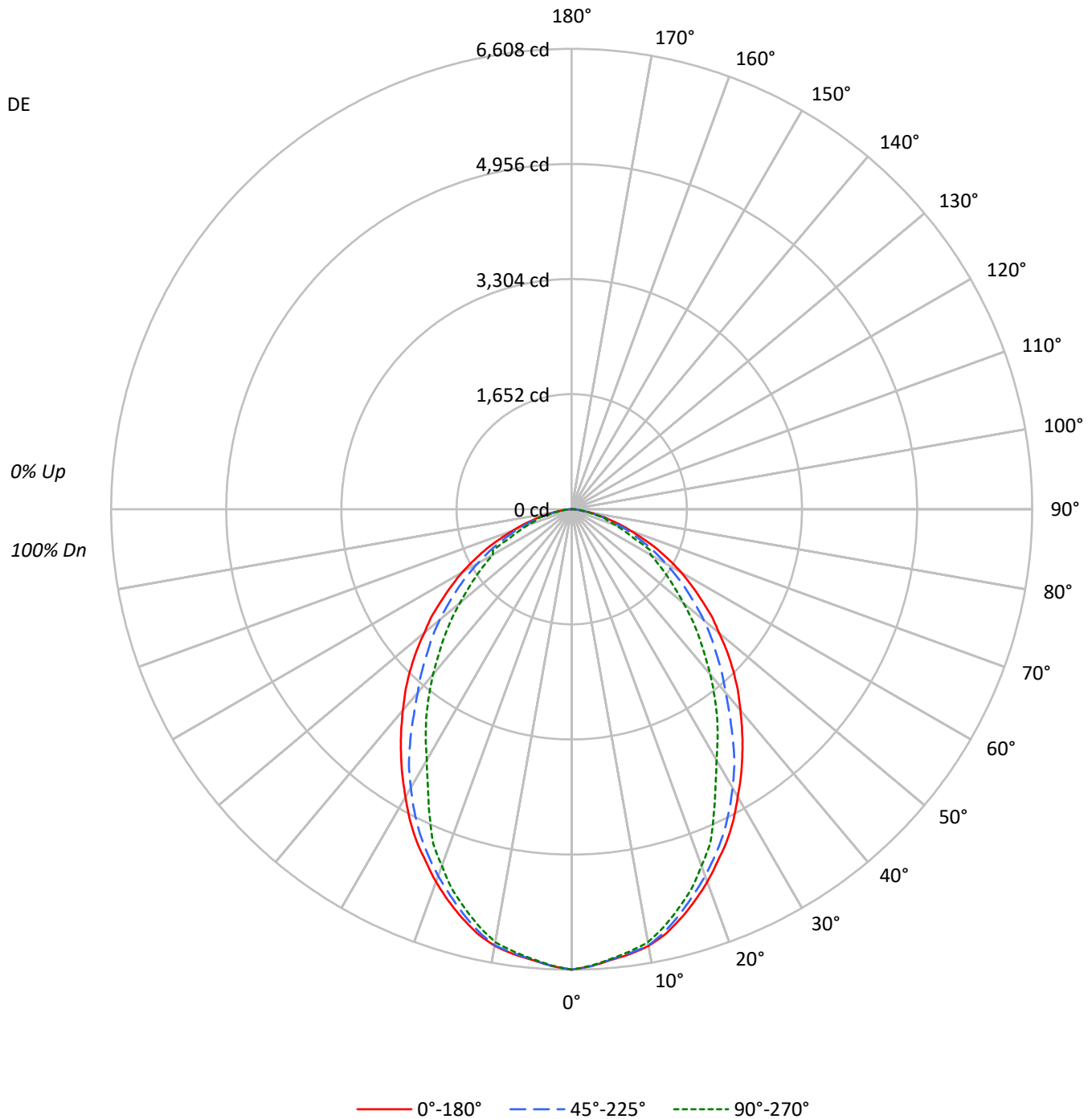
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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				
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°	8891	8891	8891
5°	8770	8760	8749
10°	8694	8683	8621
15°	8459	8374	8257
20°	8149	8017	7799
25°	7814	7644	7167
30°	7406	7168	6456
35°	7014	6625	5973
40°	6615	6038	5434
45°	6236	5582	4913
50°	5772	5181	4381
55°	5340	4695	3924
60°	4892	4194	3515
65°	4305	3672	3113
70°	3546	3216	2644
75°	2820	2462	2581
80°	1894	1776	1657
85°	1179	1416	1650

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6236 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	615.1	4.7
10°-20°	1688.1	13.0
20°-30°	2337.0	18.0
30°-40°	2491.9	19.2
40°-50°	2273.4	17.5
50°-60°	1781.0	13.7
60°-70°	1160.8	8.9
70°-80°	514.3	4.0
80°-90°	110.4	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°	4640.2	35.8
0°-40°	7132.1	55.0
0°-60°	11186.5	86.2
0°-90°	12972.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12972.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6608	6608	6608	6608	6608	
5°	6493	6486	6486	6478	6478	616
15°	6073	6073	6012	5951	5928	1707
25°	5263	5233	5149	4965	4828	2416
35°	4270	4240	4033	3728	3636	2670
45°	3277	3208	2933	2689	2582	2524
55°	2276	2208	2001	1765	1673	2042
65°	1352	1276	1154	1176	978	1333
75°	542	504	474	451	496	581
85°	76	84	92	99	107	106
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6607.8	6607.8	6607.8	6607.8	6607.8
2.5°	6561.9	6561.9	6561.9	6554.3	6554.3
5°	6493.2	6485.5	6485.5	6477.9	6477.9
7.5°	6439.7	6432.1	6424.4	6416.8	6401.5
10°	6363.3	6363.3	6355.7	6317.5	6309.8
12.5°	6241.1	6233.5	6202.9	6149.4	6134.1
15°	6073.0	6073.0	6011.9	5950.8	5927.9
17.5°	5889.7	5882.1	5805.7	5744.6	5714.0
20°	5691.1	5675.8	5599.4	5500.1	5446.6
22.5°	5469.5	5469.5	5377.9	5248.0	5194.5
25°	5263.3	5232.7	5148.7	4965.4	4827.9
27.5°	5026.5	4980.6	4889.0	4629.3	4468.8
30°	4766.8	4743.8	4614.0	4277.9	4155.6
32.5°	4522.3	4484.1	4346.6	3995.2	3895.9
35°	4270.2	4239.7	4033.4	3727.8	3636.2
37.5°	4018.1	3979.9	3720.2	3475.8	3361.2
40°	3766.0	3720.2	3437.6	3216.0	3093.8
42.5°	3529.2	3468.1	3193.1	2956.3	2818.8
45°	3277.1	3208.4	2933.4	2688.9	2582.0
47.5°	3025.1	2963.9	2711.9	2459.8	2337.5
50°	2757.7	2704.2	2475.0	2223.0	2093.1
52.5°	2536.2	2452.1	2230.6	1978.5	1871.6
55°	2276.4	2207.7	2001.4	1764.6	1672.9
57.5°	2039.6	1970.9	1779.9	1558.4	1482.0
60°	1818.1	1718.8	1558.4	1367.4	1306.3
62.5°	1573.6	1497.3	1359.7	1199.3	1275.7
65°	1352.1	1275.7	1153.5	1176.4	977.8
67.5°	1107.7	1069.5	962.5	855.6	825.0
70°	901.4	855.6	817.4	702.8	672.2
72.5°	718.1	672.2	618.8	557.6	534.7
75°	542.4	504.2	473.6	450.7	496.5
77.5°	374.3	359.0	336.1	313.2	305.6
80°	244.4	236.8	229.2	221.5	213.9
82.5°	145.1	145.1	145.1	145.1	145.1
85°	76.4	84.0	91.7	99.3	106.9
87.5°	45.8	45.8	53.5	61.1	68.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)