

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: P563734

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563734
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-40-UNV-82-87-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14168.0 lumens
Efficiency: N/A
Efficacy: 82.0 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

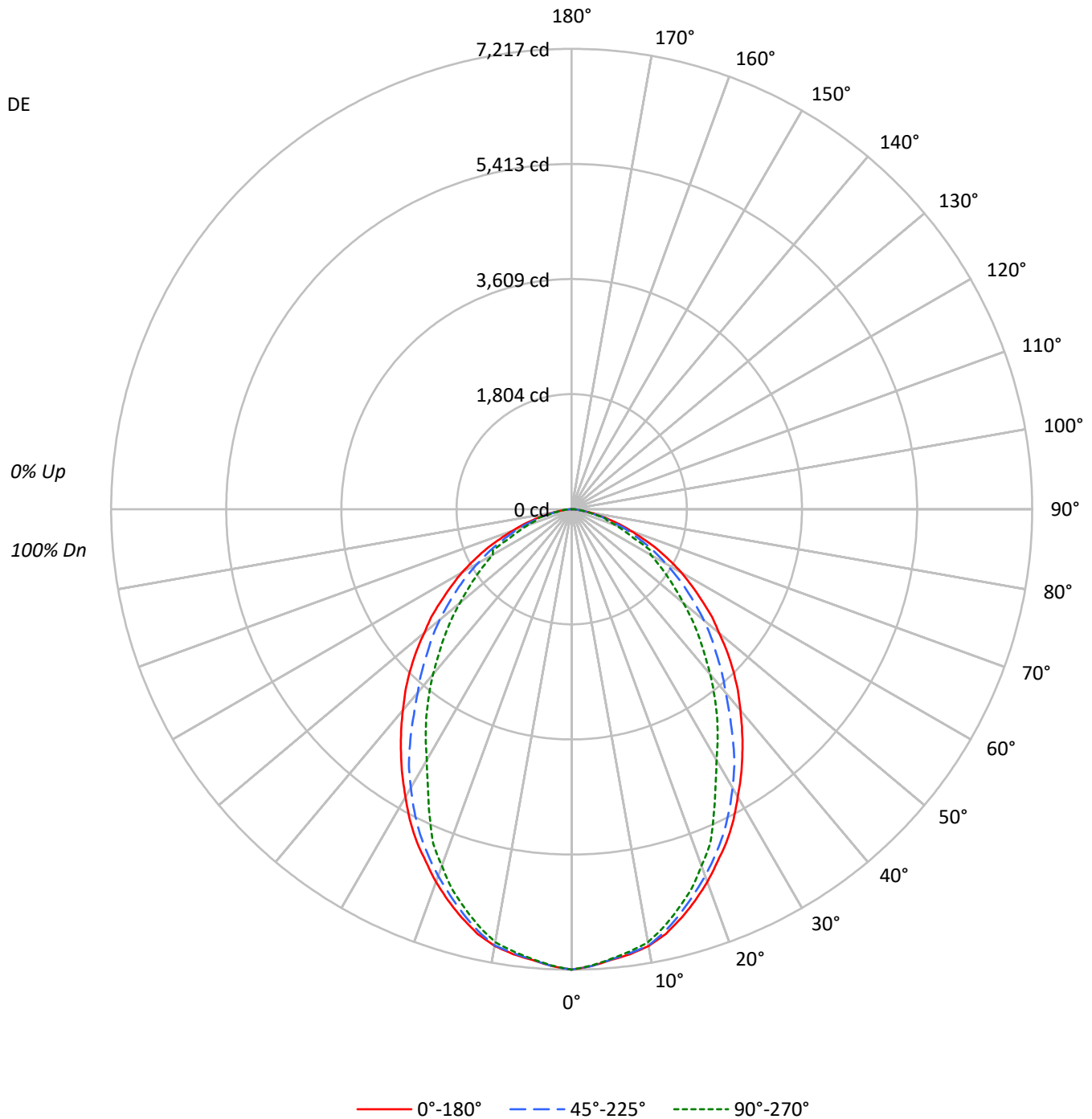
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9710	9710	9710
5°	9578	9567	9556
10°	9495	9484	9416
15°	9239	9146	9019
20°	8900	8757	8518
25°	8534	8348	7828
30°	8089	7829	7052
35°	7661	7236	6523
40°	7225	6594	5935
45°	6811	6096	5366
50°	6305	5658	4785
55°	5832	5128	4286
60°	5343	4580	3839
65°	4702	4011	3400
70°	3873	3512	2888
75°	3080	2689	2819
80°	2069	1939	1810
85°	1288	1545	1803

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6811 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	671.8	4.7
10°-20°	1843.7	13.0
20°-30°	2552.5	18.0
30°-40°	2721.7	19.2
40°-50°	2483.0	17.5
50°-60°	1945.2	13.7
60°-70°	1267.8	8.9
70°-80°	561.7	4.0
80°-90°	120.6	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°	5068.0	35.8
0°-40°	7789.7	55.0
0°-60°	12217.9	86.2
0°-90°	14168.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14168.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7217	7217	7217	7217	7217	
5°	7092	7084	7084	7075	7075	673
15°	6633	6633	6566	6500	6474	1865
25°	5749	5715	5623	5423	5273	2639
35°	4664	4631	4405	4072	3971	2916
45°	3579	3504	3204	2937	2820	2757
55°	2486	2411	2186	1927	1827	2230
65°	1477	1393	1260	1285	1068	1455
75°	592	551	517	492	542	635
85°	83	92	100	108	117	116
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7217.0	7217.0	7217.0	7217.0	7217.0
2.5°	7166.9	7166.9	7166.9	7158.6	7158.6
5°	7091.8	7083.5	7083.5	7075.2	7075.2
7.5°	7033.4	7025.1	7016.7	7008.4	6991.7
10°	6950.0	6950.0	6941.7	6899.9	6891.6
12.5°	6816.5	6808.2	6774.8	6716.4	6699.7
15°	6633.0	6633.0	6566.2	6499.5	6474.4
17.5°	6432.7	6424.4	6340.9	6274.2	6240.8
20°	6215.8	6199.1	6115.7	6007.2	5948.8
22.5°	5973.8	5973.8	5873.7	5731.9	5673.5
25°	5748.6	5715.2	5623.4	5423.2	5273.0
27.5°	5489.9	5439.9	5339.7	5056.1	4880.9
30°	5206.2	5181.2	5039.4	4672.3	4538.8
32.5°	4939.3	4897.5	4747.4	4363.6	4255.1
35°	4663.9	4630.6	4405.3	4071.6	3971.4
37.5°	4388.6	4346.9	4063.2	3796.2	3671.1
40°	4113.3	4063.2	3754.5	3512.5	3379.1
42.5°	3854.6	3787.9	3487.5	3228.9	3078.7
45°	3579.3	3504.2	3203.8	2936.9	2820.0
47.5°	3304.0	3237.2	2961.9	2686.6	2553.1
50°	3011.9	2953.5	2703.2	2427.9	2286.1
52.5°	2770.0	2678.2	2436.3	2160.9	2044.1
55°	2486.3	2411.2	2186.0	1927.3	1827.2
57.5°	2227.7	2152.6	1944.0	1702.0	1618.6
60°	1985.7	1877.3	1702.0	1493.5	1426.7
62.5°	1718.7	1635.3	1485.1	1309.9	1393.3
65°	1476.8	1393.3	1259.8	1284.9	1067.9
67.5°	1209.8	1168.1	1051.3	934.5	901.1
70°	984.5	934.5	892.7	767.6	734.2
72.5°	784.3	734.2	675.8	609.1	584.0
75°	592.4	550.7	517.3	492.3	542.3
77.5°	408.8	392.1	367.1	342.1	333.7
80°	267.0	258.6	250.3	242.0	233.6
82.5°	158.5	158.5	158.5	158.5	158.5
85°	83.4	91.8	100.1	108.5	116.8
87.5°	50.1	50.1	58.4	66.7	75.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)