

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: P563664

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563664
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14899.0 lumens
Efficiency: N/A
Efficacy: 86.2 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

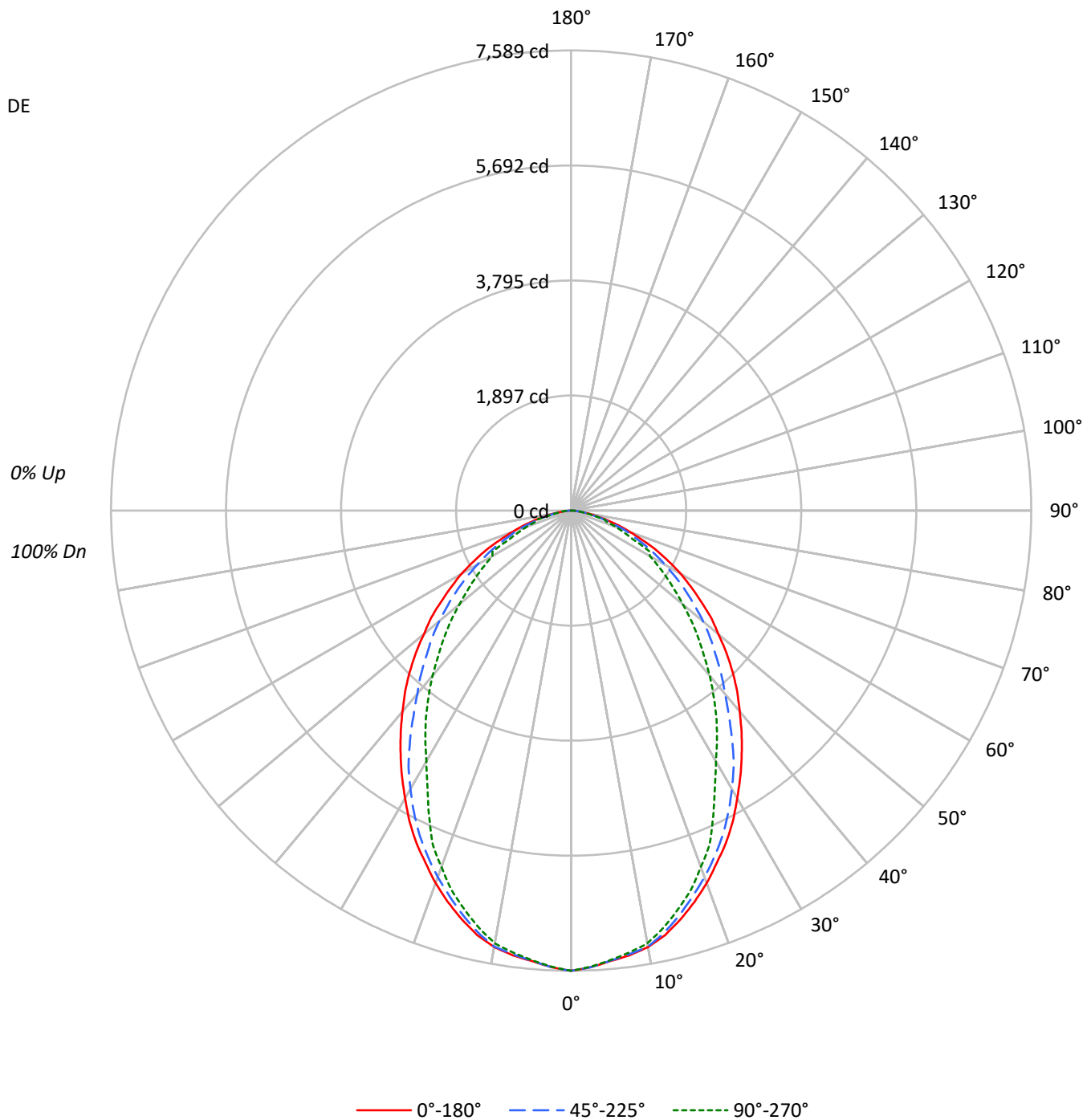
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10211	10211	10211
5°	10073	10061	10049
10°	9985	9973	9901
15°	9716	9618	9484
20°	9359	9208	8957
25°	8975	8779	8232
30°	8506	8233	7416
35°	8056	7609	6860
40°	7597	6935	6241
45°	7162	6411	5643
50°	6630	5950	5032
55°	6133	5392	4507
60°	5619	4817	4037
65°	4944	4218	3575
70°	4073	3693	3037
75°	3238	2828	2965
80°	2176	2039	1904
85°	1354	1626	1896

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7162 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	706.5	4.7
10°-20°	1938.8	13.0
20°-30°	2684.2	18.0
30°-40°	2862.1	19.2
40°-50°	2611.1	17.5
50°-60°	2045.6	13.7
60°-70°	1333.2	8.9
70°-80°	590.7	4.0
80°-90°	126.8	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°	5329.5	35.8
0°-40°	8191.6	55.0
0°-60°	12848.3	86.2
0°-90°	14899.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14899.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7589	7589	7589	7589	7589	
5°	7458	7449	7449	7440	7440	708
15°	6975	6975	6905	6835	6808	1961
25°	6045	6010	5914	5703	5545	2775
35°	4905	4870	4633	4282	4176	3066
45°	3764	3685	3369	3088	2966	2899
55°	2615	2536	2299	2027	1922	2345
65°	1553	1465	1325	1351	1123	1530
75°	623	579	544	518	570	668
85°	88	96	105	114	123	122
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7589.4	7589.4	7589.4	7589.4	7589.4
2.5°	7536.7	7536.7	7536.7	7527.9	7527.9
5°	7457.7	7449.0	7449.0	7440.2	7440.2
7.5°	7396.3	7387.6	7378.8	7370.0	7352.5
10°	7308.6	7308.6	7299.8	7255.9	7247.2
12.5°	7168.2	7159.4	7124.3	7062.9	7045.4
15°	6975.2	6975.2	6905.0	6834.8	6808.5
17.5°	6764.6	6755.8	6668.1	6597.9	6562.8
20°	6536.5	6518.9	6431.2	6317.1	6255.7
22.5°	6282.1	6282.1	6176.8	6027.6	5966.2
25°	6045.2	6010.1	5913.6	5703.0	5545.1
27.5°	5773.2	5720.5	5615.2	5316.9	5132.7
30°	5474.9	5448.5	5299.4	4913.3	4773.0
32.5°	5194.1	5150.2	4992.3	4588.7	4474.6
35°	4904.6	4869.5	4632.6	4281.6	4176.3
37.5°	4615.0	4571.2	4272.8	3992.1	3860.5
40°	4325.5	4272.8	3948.2	3693.8	3553.4
42.5°	4053.5	3983.3	3667.5	3395.5	3237.5
45°	3764.0	3685.0	3369.1	3088.4	2965.6
47.5°	3474.4	3404.2	3114.7	2825.2	2684.8
50°	3167.3	3105.9	2842.7	2553.2	2404.0
52.5°	2912.9	2816.4	2562.0	2272.4	2149.6
55°	2614.6	2535.6	2298.7	2026.8	1921.5
57.5°	2342.6	2263.6	2044.3	1789.9	1702.1
60°	2088.2	1974.1	1789.9	1570.5	1500.3
62.5°	1807.4	1719.7	1561.7	1377.5	1465.2
65°	1553.0	1465.2	1324.8	1351.2	1123.0
67.5°	1272.2	1228.3	1105.5	982.7	947.6
70°	1035.3	982.7	938.8	807.2	772.1
72.5°	824.7	772.1	710.7	640.5	614.2
75°	622.9	579.1	544.0	517.7	570.3
77.5°	429.9	412.4	386.0	359.7	351.0
80°	280.8	272.0	263.2	254.4	245.7
82.5°	166.7	166.7	166.7	166.7	166.7
85°	87.7	96.5	105.3	114.1	122.8
87.5°	52.6	52.6	61.4	70.2	79.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)