

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: P562631

Luminaire Tested: FSR-24-4-LD4-2HI-50-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562631
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-LD4-2HI-50-UNV-81-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8759.0 lumens
Efficiency: N/A
Efficacy: 101.4 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

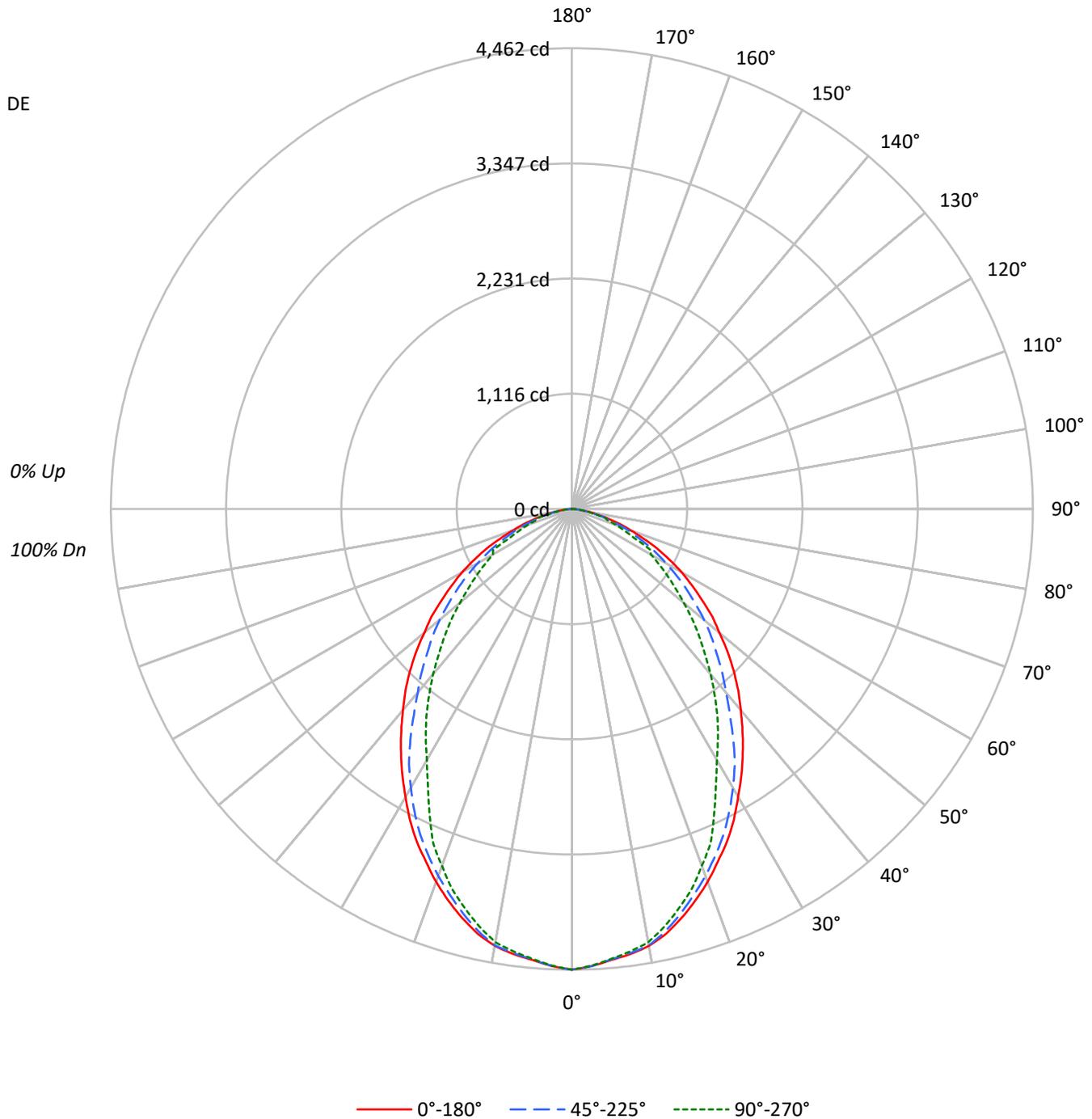
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6003	6003	6003
5°	5922	5915	5908
10°	5870	5863	5821
15°	5712	5655	5576
20°	5502	5414	5266
25°	5276	5161	4840
30°	5001	4840	4360
35°	4736	4473	4033
40°	4466	4077	3669
45°	4211	3769	3317
50°	3898	3498	2958
55°	3606	3170	2650
60°	3303	2831	2373
65°	2907	2480	2102
70°	2395	2171	1786
75°	1904	1663	1743
80°	1279	1199	1119
85°	797	956	1115

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4211 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	415.3	4.7
10°-20°	1139.8	13.0
20°-30°	1578.0	18.0
30°-40°	1682.6	19.2
40°-50°	1535.0	17.5
50°-60°	1202.6	13.7
60°-70°	783.8	8.9
70°-80°	347.2	4.0
80°-90°	74.6	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°	3133.2	35.8
0°-40°	4815.8	55.0
0°-60°	7553.4	86.2
0°-90°	8759.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8759.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4462	4462	4462	4462	4462	
5°	4384	4379	4379	4374	4374	416
15°	4101	4101	4059	4018	4003	1153
25°	3554	3533	3476	3353	3260	1632
35°	2883	2863	2724	2517	2455	1803
45°	2213	2166	1981	1816	1743	1705
55°	1537	1491	1351	1192	1130	1379
65°	913	861	779	794	660	900
75°	366	340	320	304	335	393
85°	52	57	62	67	72	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4461.7	4461.7	4461.7	4461.7	4461.7
2.5°	4430.8	4430.8	4430.8	4425.6	4425.6
5°	4384.3	4379.2	4379.2	4374.0	4374.0
7.5°	4348.2	4343.1	4337.9	4332.8	4322.5
10°	4296.7	4296.7	4291.5	4265.7	4260.6
12.5°	4214.1	4209.0	4188.3	4152.2	4141.9
15°	4100.7	4100.7	4059.4	4018.1	4002.7
17.5°	3976.9	3971.7	3920.1	3878.9	3858.2
20°	3842.8	3832.4	3780.9	3713.8	3677.7
22.5°	3693.2	3693.2	3631.3	3543.6	3507.5
25°	3553.9	3533.3	3476.5	3352.7	3259.9
27.5°	3394.0	3363.1	3301.2	3125.8	3017.5
30°	3218.6	3203.2	3115.5	2888.5	2806.0
32.5°	3053.6	3027.8	2934.9	2697.7	2630.6
35°	2883.4	2862.7	2723.5	2517.1	2455.2
37.5°	2713.1	2687.3	2512.0	2346.9	2269.5
40°	2542.9	2512.0	2321.1	2171.5	2089.0
42.5°	2383.0	2341.8	2156.1	1996.2	1903.3
45°	2212.8	2166.4	1980.7	1815.6	1743.4
47.5°	2042.6	2001.3	1831.1	1660.9	1578.4
50°	1862.1	1826.0	1671.2	1501.0	1413.3
52.5°	1712.5	1655.7	1506.2	1335.9	1263.7
55°	1537.1	1490.7	1351.4	1191.5	1129.6
57.5°	1377.2	1330.8	1201.8	1052.2	1000.7
60°	1227.6	1160.6	1052.2	923.3	882.0
62.5°	1062.6	1011.0	918.1	809.8	861.4
65°	913.0	861.4	778.9	794.3	660.2
67.5°	747.9	722.1	649.9	577.7	557.1
70°	608.7	577.7	551.9	474.5	453.9
72.5°	484.9	453.9	417.8	376.5	361.1
75°	366.2	340.4	319.8	304.3	335.3
77.5°	252.7	242.4	227.0	211.5	206.3
80°	165.1	159.9	154.7	149.6	144.4
82.5°	98.0	98.0	98.0	98.0	98.0
85°	51.6	56.7	61.9	67.1	72.2
87.5°	30.9	30.9	36.1	41.3	46.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)