

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: P563628

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563628
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-LD4-3STD-50-UNV-93-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10391.0 lumens
Efficiency: N/A
Efficacy: 104.0 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

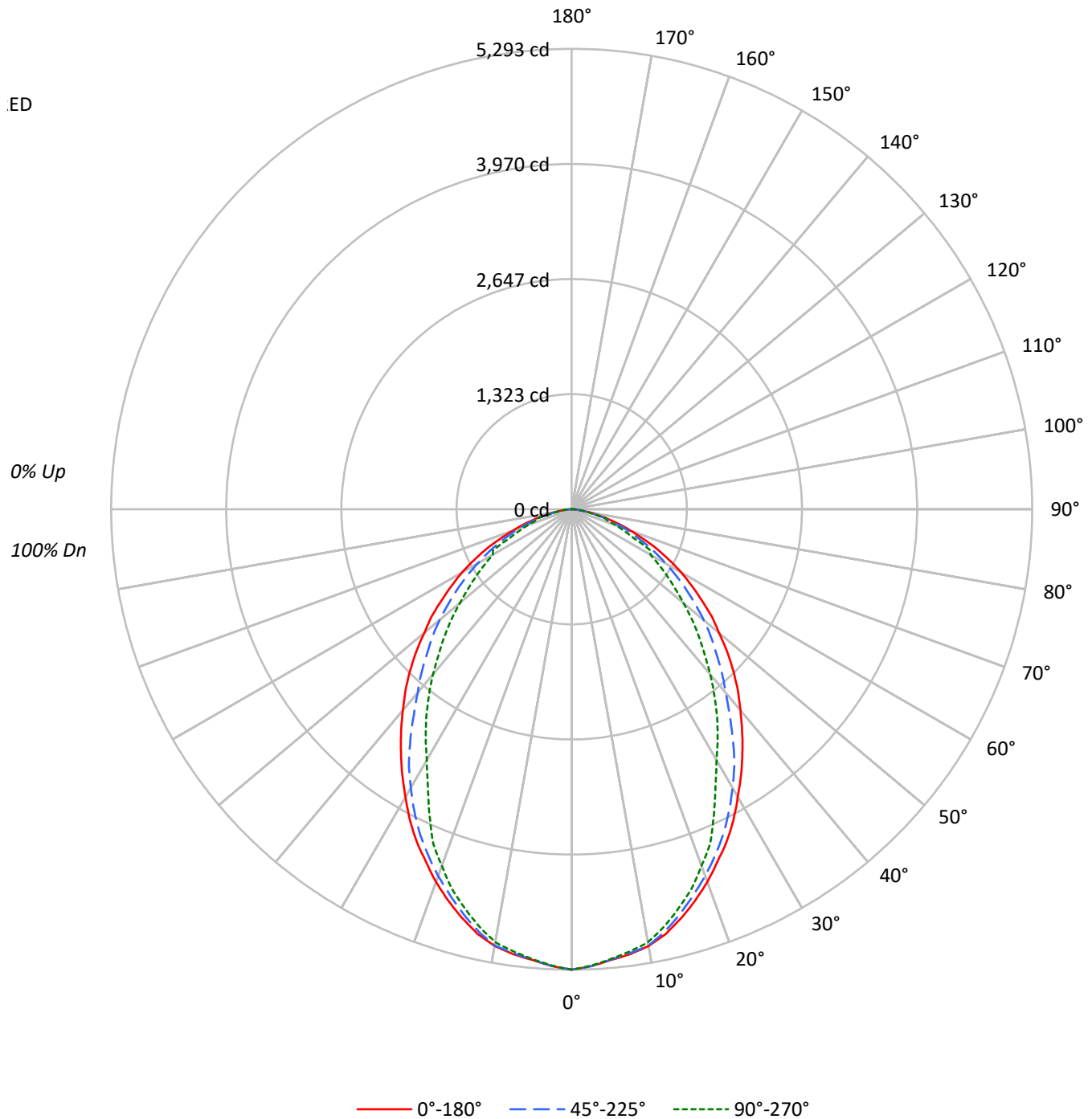
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7122	7122	7122
5°	7025	7017	7008
10°	6964	6956	6906
15°	6776	6708	6614
20°	6527	6422	6247
25°	6259	6123	5741
30°	5932	5742	5172
35°	5618	5307	4784
40°	5299	4836	4353
45°	4995	4471	3936
50°	4624	4150	3509
55°	4278	3761	3144
60°	3919	3359	2816
65°	3448	2942	2493
70°	2841	2576	2118
75°	2259	1972	2067
80°	1517	1423	1327
85°	945	1133	1323

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4995 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	492.7	4.7
10°-20°	1352.2	13.0
20°-30°	1872.0	18.0
30°-40°	1996.1	19.2
40°-50°	1821.1	17.5
50°-60°	1426.6	13.7
60°-70°	929.8	8.9
70°-80°	411.9	4.0
80°-90°	88.5	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°	3716.9	35.8
0°-40°	5713.1	55.0
0°-60°	8960.8	86.2
0°-90°	10391.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10391.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5293	5293	5293	5293	5293	
5°	5201	5195	5195	5189	5189	494
15°	4865	4865	4816	4767	4748	1368
25°	4216	4192	4124	3977	3867	1936
35°	3421	3396	3231	2986	2913	2138
45°	2625	2570	2350	2154	2068	2022
55°	1824	1768	1603	1414	1340	1636
65°	1083	1022	924	942	783	1067
75°	434	404	379	361	398	466
85°	61	67	73	80	86	85
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5293.0	5293.0	5293.0	5293.0	5293.0
2.5°	5256.3	5256.3	5256.3	5250.2	5250.2
5°	5201.2	5195.1	5195.1	5189.0	5189.0
7.5°	5158.4	5152.3	5146.2	5140.1	5127.8
10°	5097.2	5097.2	5091.1	5060.5	5054.4
12.5°	4999.3	4993.2	4968.7	4925.9	4913.7
15°	4864.7	4864.7	4815.7	4766.8	4748.4
17.5°	4717.8	4711.7	4650.5	4601.6	4577.1
20°	4558.7	4546.5	4485.3	4405.8	4362.9
22.5°	4381.3	4381.3	4307.9	4203.8	4161.0
25°	4216.1	4191.6	4124.3	3977.4	3867.3
27.5°	4026.4	3989.7	3916.2	3708.2	3579.7
30°	3818.3	3800.0	3695.9	3426.7	3328.8
32.5°	3622.5	3591.9	3481.8	3200.3	3120.7
35°	3420.6	3396.1	3230.9	2986.1	2912.7
37.5°	3218.7	3188.1	2980.0	2784.2	2692.4
40°	3016.7	2980.0	2753.6	2576.1	2478.2
42.5°	2827.0	2778.1	2557.8	2368.1	2258.0
45°	2625.1	2570.0	2349.7	2153.9	2068.3
47.5°	2423.2	2374.2	2172.3	1970.4	1872.4
50°	2209.0	2166.2	1982.6	1780.7	1676.6
52.5°	2031.5	1964.2	1786.8	1584.9	1499.2
55°	1823.5	1768.4	1603.2	1413.5	1340.1
57.5°	1633.8	1578.7	1425.8	1248.3	1187.1
60°	1456.3	1376.8	1248.3	1095.3	1046.4
62.5°	1260.5	1199.3	1089.2	960.7	1021.9
65°	1083.1	1021.9	924.0	942.3	783.2
67.5°	887.3	856.7	771.0	685.3	660.9
70°	722.1	685.3	654.7	563.0	538.5
72.5°	575.2	538.5	495.6	446.7	428.3
75°	434.5	403.9	379.4	361.0	397.7
77.5°	299.8	287.6	269.2	250.9	244.8
80°	195.8	189.7	183.6	177.5	171.3
82.5°	116.3	116.3	116.3	116.3	116.3
85°	61.2	67.3	73.4	79.5	85.7
87.5°	36.7	36.7	42.8	49.0	55.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)