

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: P563100

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563100
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-LD4-3HI-35-UNV-82-96-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11076.0 lumens
Efficiency: N/A
Efficacy: 85.5 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

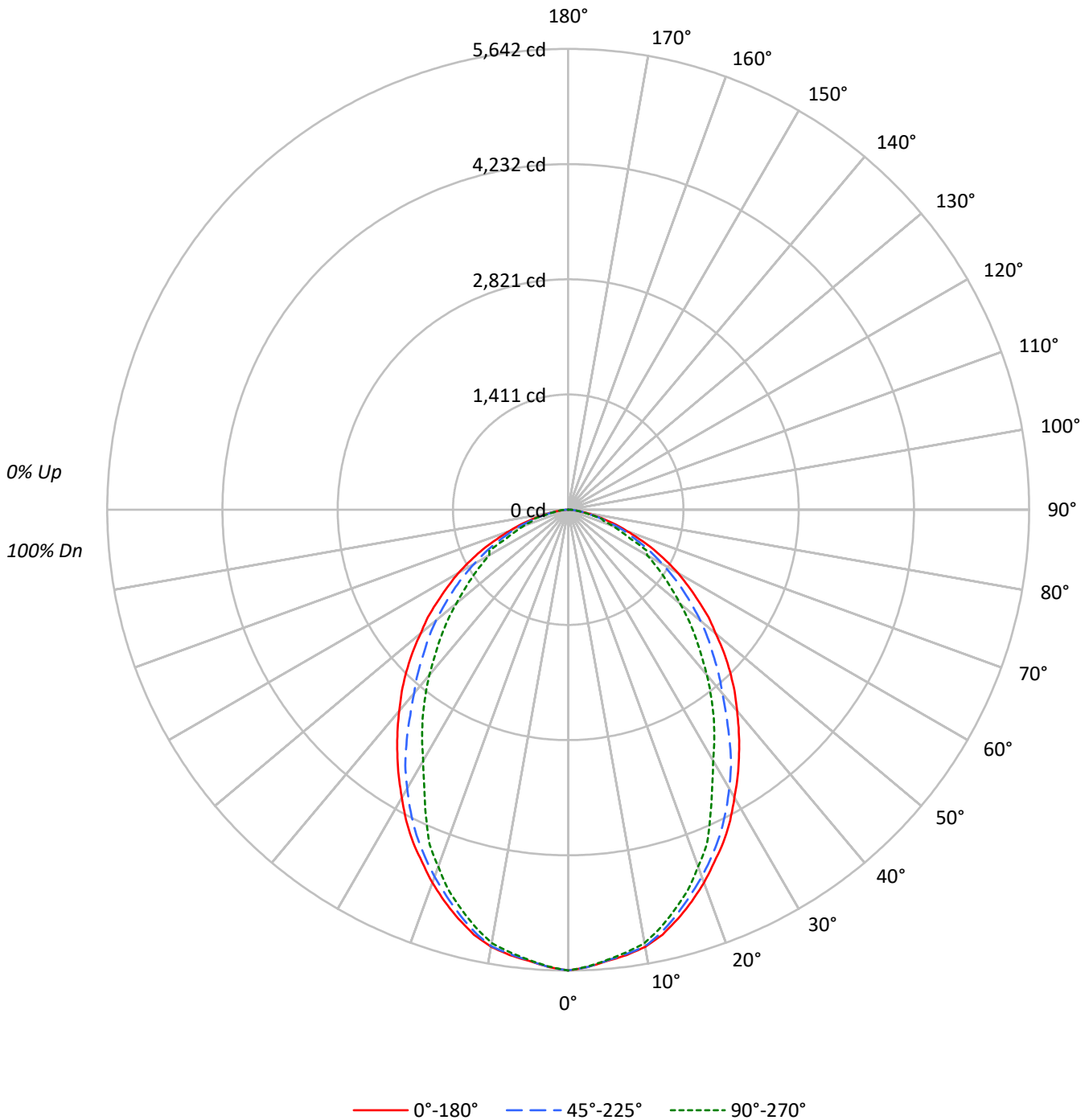
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7591	7591	7591
5°	7488	7479	7470
10°	7423	7414	7361
15°	7223	7150	7050
20°	6958	6846	6659
25°	6672	6527	6120
30°	6323	6121	5513
35°	5989	5657	5100
40°	5648	5155	4640
45°	5324	4766	4195
50°	4929	4424	3741
55°	4560	4009	3351
60°	4177	3581	3001
65°	3676	3136	2658
70°	3028	2746	2258
75°	2407	2102	2204
80°	1617	1516	1415
85°	1007	1209	1409

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5324 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	525.2	4.7
10°-20°	1441.3	13.0
20°-30°	1995.4	18.0
30°-40°	2127.7	19.2
40°-50°	1941.1	17.5
50°-60°	1520.7	13.7
60°-70°	991.1	8.9
70°-80°	439.1	4.0
80°-90°	94.3	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°	3962.0	35.8
0°-40°	6089.7	55.0
0°-60°	9551.5	86.2
0°-90°	11076.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11076.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5642	5642	5642	5642	5642	
5°	5544	5538	5538	5531	5531	526
15°	5185	5185	5133	5081	5062	1458
25°	4494	4468	4396	4240	4122	2063
35°	3646	3620	3444	3183	3105	2279
45°	2798	2740	2505	2296	2205	2155
55°	1944	1885	1709	1507	1428	1743
65°	1154	1089	985	1004	835	1138
75°	463	430	404	385	424	496
85°	65	72	78	85	91	90
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5642.0	5642.0	5642.0	5642.0	5642.0
2.5°	5602.8	5602.8	5602.8	5596.3	5596.3
5°	5544.1	5537.6	5537.6	5531.1	5531.1
7.5°	5498.5	5491.9	5485.4	5478.9	5465.9
10°	5433.2	5433.2	5426.7	5394.1	5387.6
12.5°	5328.9	5322.4	5296.3	5250.6	5237.6
15°	5185.4	5185.4	5133.2	5081.0	5061.5
17.5°	5028.9	5022.3	4957.1	4904.9	4878.8
20°	4859.3	4846.2	4781.0	4696.2	4650.5
22.5°	4670.1	4670.1	4591.8	4481.0	4435.3
25°	4494.0	4467.9	4396.2	4239.6	4122.2
27.5°	4291.8	4252.7	4174.4	3952.6	3815.7
30°	4070.0	4050.5	3939.6	3652.6	3548.2
32.5°	3861.3	3828.7	3711.3	3411.3	3326.5
35°	3646.1	3620.0	3443.9	3183.0	3104.7
37.5°	3430.8	3398.2	3176.5	2967.7	2869.9
40°	3215.6	3176.5	2935.1	2746.0	2641.6
42.5°	3013.4	2961.2	2726.4	2524.2	2406.8
45°	2798.2	2739.5	2504.6	2295.9	2204.6
47.5°	2582.9	2530.7	2315.5	2100.2	1995.9
50°	2354.6	2309.0	2113.3	1898.0	1787.2
52.5°	2165.5	2093.7	1904.6	1689.3	1598.0
55°	1943.7	1885.0	1708.9	1506.7	1428.4
57.5°	1741.5	1682.8	1519.7	1330.6	1265.4
60°	1552.4	1467.6	1330.6	1167.5	1115.3
62.5°	1343.6	1278.4	1161.0	1024.0	1089.3
65°	1154.5	1089.3	984.9	1004.5	834.9
67.5°	945.8	913.2	821.8	730.5	704.4
70°	769.7	730.5	697.9	600.1	574.0
72.5°	613.1	574.0	528.3	476.1	456.6
75°	463.1	430.5	404.4	384.8	424.0
77.5°	319.6	306.6	287.0	267.4	260.9
80°	208.7	202.2	195.7	189.2	182.6
82.5°	123.9	123.9	123.9	123.9	123.9
85°	65.2	71.7	78.3	84.8	91.3
87.5°	39.1	39.1	45.7	52.2	58.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)