

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: P563156

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563156
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-40-UNV-82-86-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10983.0 lumens
Efficiency: N/A
Efficacy: 84.7 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

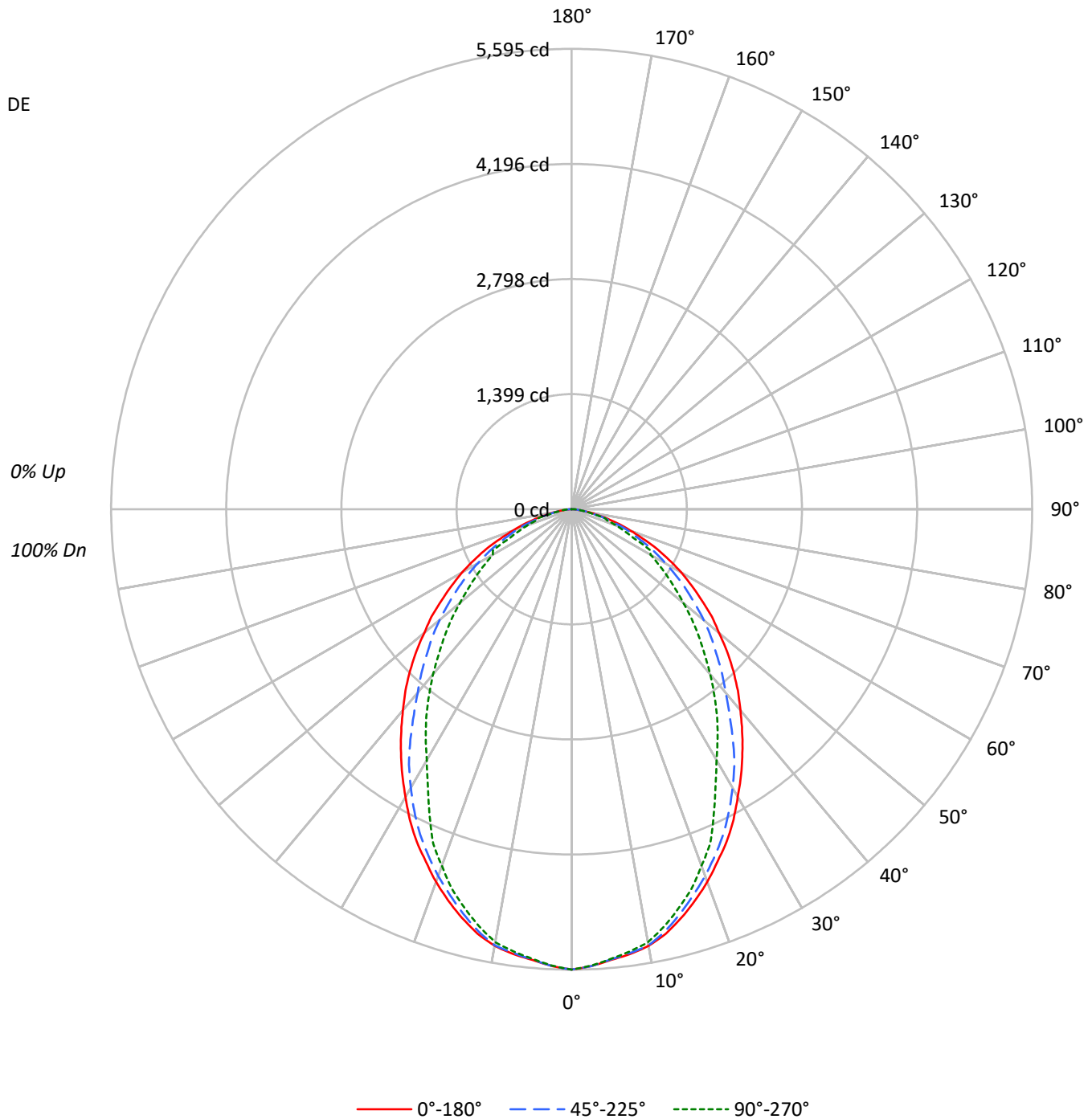
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7527	7527	7527
5°	7425	7416	7408
10°	7361	7352	7299
15°	7162	7090	6991
20°	6899	6788	6603
25°	6616	6472	6068
30°	6270	6069	5466
35°	5939	5609	5057
40°	5600	5112	4601
45°	5280	4726	4160
50°	4887	4386	3710
55°	4521	3975	3323
60°	4142	3550	2976
65°	3645	3109	2636
70°	3002	2722	2239
75°	2387	2085	2185
80°	1604	1503	1403
85°	999	1198	1397

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5280 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	520.8	4.7
10°-20°	1429.2	13.0
20°-30°	1978.7	18.0
30°-40°	2109.9	19.2
40°-50°	1924.8	17.5
50°-60°	1507.9	13.7
60°-70°	982.8	8.9
70°-80°	435.4	4.0
80°-90°	93.5	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°	3928.7	35.8
0°-40°	6038.6	55.0
0°-60°	9471.3	86.2
0°-90°	10983.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10983.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5595	5595	5595	5595	5595	
5°	5498	5491	5491	5485	5485	522
15°	5142	5142	5090	5038	5019	1446
25°	4456	4430	4359	4204	4088	2046
35°	3616	3590	3415	3156	3079	2260
45°	2775	2716	2484	2277	2186	2137
55°	1927	1869	1694	1494	1416	1729
65°	1145	1080	977	996	828	1128
75°	459	427	401	382	420	492
85°	65	71	78	84	90	90
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5594.6	5594.6	5594.6	5594.6	5594.6
2.5°	5555.8	5555.8	5555.8	5549.3	5549.3
5°	5497.6	5491.1	5491.1	5484.6	5484.6
7.5°	5452.3	5445.8	5439.4	5432.9	5420.0
10°	5387.6	5387.6	5381.2	5348.8	5342.4
12.5°	5284.1	5277.7	5251.8	5206.5	5193.6
15°	5141.9	5141.9	5090.1	5038.4	5019.0
17.5°	4986.6	4980.2	4915.5	4863.7	4837.9
20°	4818.5	4805.5	4740.9	4656.8	4611.5
22.5°	4630.9	4630.9	4553.3	4443.3	4398.1
25°	4456.3	4430.4	4359.3	4204.0	4087.6
27.5°	4255.8	4217.0	4139.4	3919.4	3783.6
30°	4035.9	4016.5	3906.5	3621.9	3518.4
32.5°	3828.9	3796.6	3680.1	3382.6	3298.5
35°	3615.5	3589.6	3415.0	3156.3	3078.6
37.5°	3402.0	3369.7	3149.8	2942.8	2845.8
40°	3188.6	3149.8	2910.5	2722.9	2619.4
42.5°	2988.1	2936.4	2703.5	2503.0	2386.6
45°	2774.7	2716.5	2483.6	2276.6	2186.1
47.5°	2561.2	2509.5	2296.0	2082.6	1979.1
50°	2334.9	2289.6	2095.5	1882.1	1772.2
52.5°	2147.3	2076.1	1888.6	1675.1	1584.6
55°	1927.4	1869.2	1694.5	1494.0	1416.4
57.5°	1726.9	1668.7	1507.0	1319.4	1254.7
60°	1539.3	1455.2	1319.4	1157.7	1106.0
62.5°	1332.4	1267.7	1151.3	1015.4	1080.1
65°	1144.8	1080.1	976.6	996.0	827.9
67.5°	937.8	905.5	814.9	724.4	698.5
70°	763.2	724.4	692.0	595.0	569.2
72.5°	608.0	569.2	523.9	472.1	452.7
75°	459.2	426.9	401.0	381.6	420.4
77.5°	316.9	304.0	284.6	265.2	258.7
80°	207.0	200.5	194.0	187.6	181.1
82.5°	122.9	122.9	122.9	122.9	122.9
85°	64.7	71.1	77.6	84.1	90.5
87.5°	38.8	38.8	45.3	51.7	58.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)