

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: P564058

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564058
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-LD4-4STD-35-UNV-82-94-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 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: 12175.0 lumens
Efficiency: N/A
Efficacy: 91.4 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

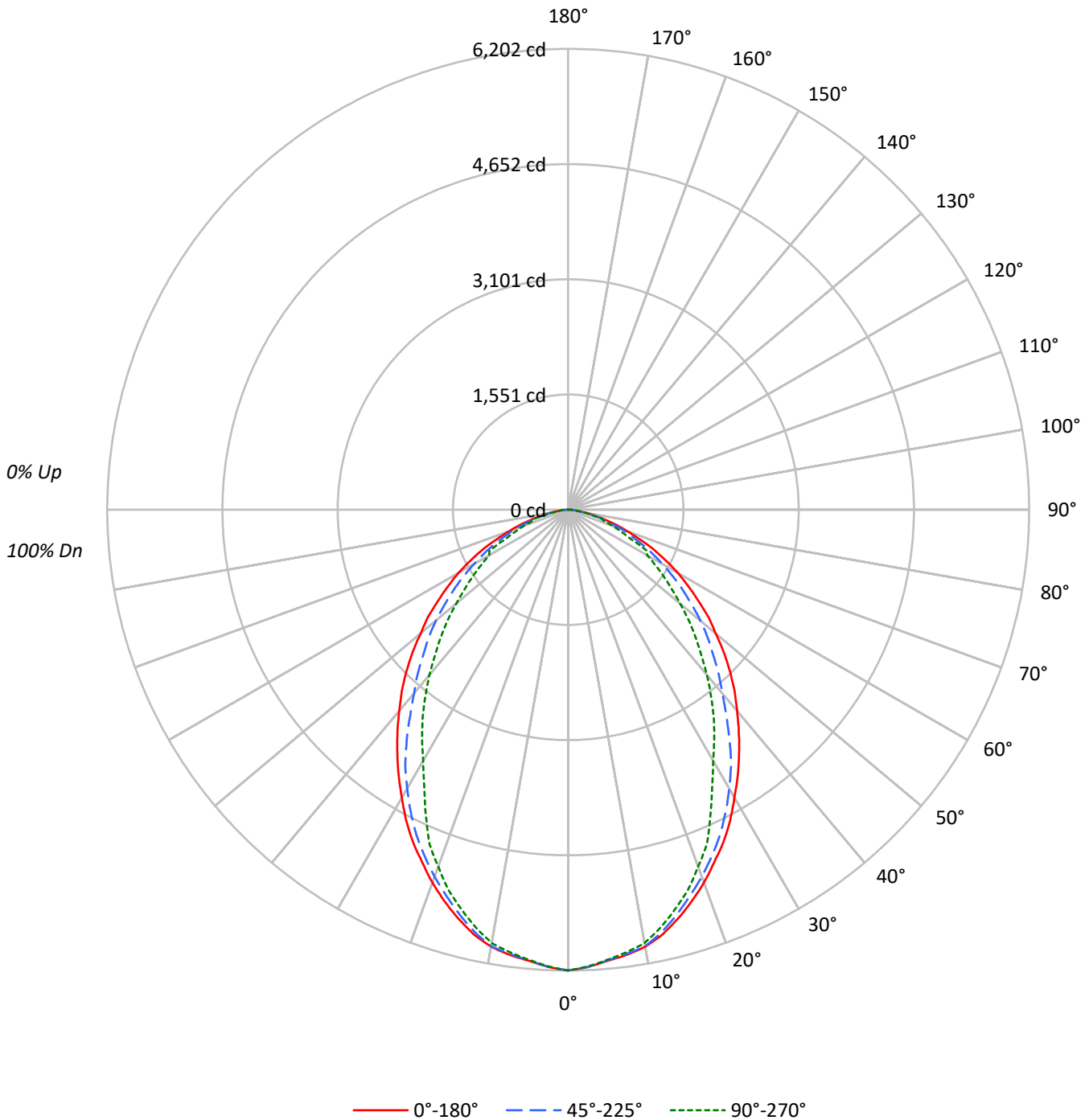
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8344	8344	8344
5°	8231	8221	8212
10°	8160	8150	8091
15°	7940	7860	7750
20°	7648	7525	7320
25°	7334	7174	6727
30°	6951	6728	6060
35°	6583	6218	5606
40°	6208	5667	5100
45°	5853	5239	4611
50°	5418	4863	4112
55°	5012	4407	3683
60°	4592	3936	3299
65°	4040	3447	2922
70°	3328	3018	2482
75°	2646	2311	2423
80°	1777	1667	1556
85°	1107	1328	1550

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5853 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	577.3	4.7
10°-20°	1584.4	13.0
20°-30°	2193.4	18.0
30°-40°	2338.8	19.2
40°-50°	2133.7	17.5
50°-60°	1671.6	13.7
60°-70°	1089.5	8.9
70°-80°	482.7	4.0
80°-90°	103.6	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°	4355.1	35.8
0°-40°	6693.9	55.0
0°-60°	10499.2	86.2
0°-90°	12175.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12175.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6202	6202	6202	6202	6202	
5°	6094	6087	6087	6080	6080	578
15°	5700	5700	5642	5585	5564	1602
25°	4940	4911	4832	4660	4531	2268
35°	4008	3979	3786	3499	3413	2506
45°	3076	3011	2753	2524	2423	2369
55°	2137	2072	1878	1656	1570	1916
65°	1269	1197	1083	1104	918	1251
75°	509	473	444	423	466	546
85°	72	79	86	93	100	99
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6201.8	6201.8	6201.8	6201.8	6201.8
2.5°	6158.8	6158.8	6158.8	6151.6	6151.6
5°	6094.2	6087.1	6087.1	6079.9	6079.9
7.5°	6044.0	6036.9	6029.7	6022.5	6008.2
10°	5972.4	5972.4	5965.2	5929.3	5922.2
12.5°	5857.6	5850.5	5821.8	5771.6	5757.3
15°	5699.9	5699.9	5642.5	5585.2	5563.7
17.5°	5527.8	5520.7	5449.0	5391.6	5362.9
20°	5341.4	5327.1	5255.4	5162.2	5112.0
22.5°	5133.5	5133.5	5047.5	4925.6	4875.4
25°	4939.9	4911.2	4832.4	4660.3	4531.2
27.5°	4717.7	4674.6	4588.6	4344.8	4194.3
30°	4473.9	4452.4	4330.5	4015.0	3900.3
32.5°	4244.5	4208.6	4079.6	3749.7	3656.5
35°	4007.9	3979.2	3785.6	3498.8	3412.8
37.5°	3771.3	3735.4	3491.6	3262.2	3154.7
40°	3534.7	3491.6	3226.4	3018.4	2903.7
42.5°	3312.4	3255.0	2996.9	2774.7	2645.6
45°	3075.8	3011.3	2753.2	2523.7	2423.4
47.5°	2839.2	2781.8	2545.2	2308.6	2193.9
50°	2588.3	2538.1	2323.0	2086.4	1964.5
52.5°	2380.3	2301.5	2093.5	1856.9	1756.6
55°	2136.6	2072.0	1878.5	1656.2	1570.2
57.5°	1914.3	1849.8	1670.5	1462.6	1390.9
60°	1706.4	1613.2	1462.6	1283.4	1226.0
62.5°	1477.0	1405.3	1276.2	1125.6	1197.3
65°	1269.0	1197.3	1082.6	1104.1	917.7
67.5°	1039.6	1003.8	903.4	803.0	774.3
70°	846.0	803.0	767.2	659.6	630.9
72.5°	674.0	630.9	580.7	523.4	501.9
75°	509.0	473.2	444.5	423.0	466.0
77.5°	351.3	337.0	315.5	294.0	286.8
80°	229.4	222.3	215.1	207.9	200.8
82.5°	136.2	136.2	136.2	136.2	136.2
85°	71.7	78.9	86.0	93.2	100.4
87.5°	43.0	43.0	50.2	57.4	64.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)