

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: P564054

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564054
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-82-87-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11389.0 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

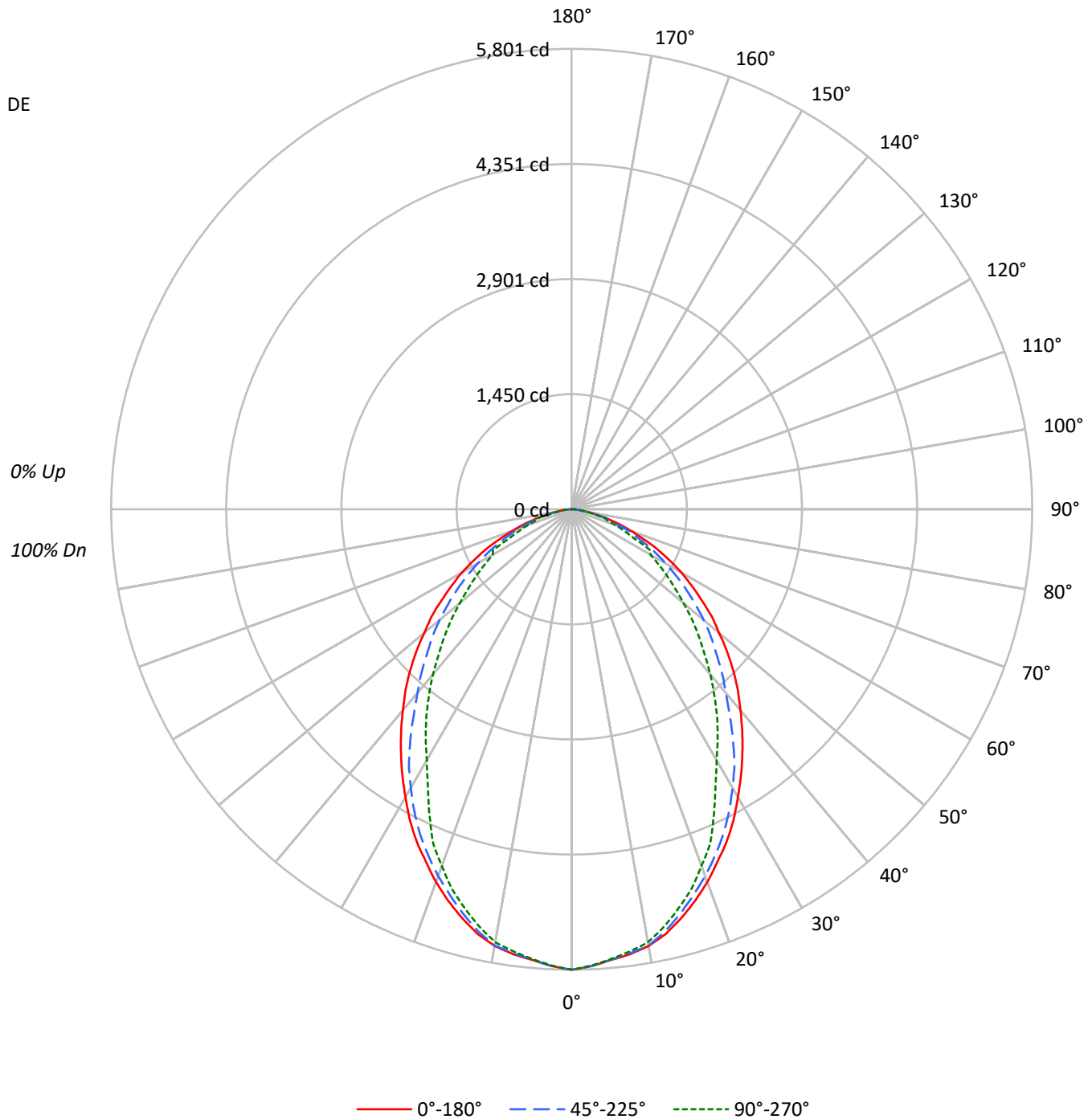
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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																												
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°	7806	7806	7806
5°	7700	7691	7682
10°	7633	7624	7569
15°	7427	7352	7250
20°	7154	7039	6847
25°	6860	6711	6293
30°	6502	6294	5668
35°	6158	5817	5244
40°	5808	5301	4771
45°	5475	4900	4313
50°	5068	4549	3847
55°	4688	4122	3445
60°	4295	3682	3086
65°	3779	3224	2733
70°	3113	2823	2322
75°	2476	2162	2266
80°	1663	1559	1455
85°	1036	1243	1450

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5475 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	540.0	4.7
10°-20°	1482.1	13.0
20°-30°	2051.8	18.0
30°-40°	2187.8	19.2
40°-50°	1996.0	17.5
50°-60°	1563.7	13.7
60°-70°	1019.1	8.9
70°-80°	451.5	4.0
80°-90°	96.9	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°	4073.9	35.8
0°-40°	6261.8	55.0
0°-60°	9821.4	86.2
0°-90°	11389.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11389.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5801	5801	5801	5801	5801	
5°	5701	5694	5694	5687	5687	541
15°	5332	5332	5278	5225	5204	1499
25°	4621	4594	4520	4359	4239	2122
35°	3749	3722	3541	3273	3192	2344
45°	2877	2817	2575	2361	2267	2216
55°	1999	1938	1757	1549	1469	1793
65°	1187	1120	1013	1033	858	1170
75°	476	443	416	396	436	510
85°	67	74	80	87	94	93
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5801.4	5801.4	5801.4	5801.4	5801.4
2.5°	5761.2	5761.2	5761.2	5754.5	5754.5
5°	5700.8	5694.1	5694.1	5687.4	5687.4
7.5°	5653.9	5647.1	5640.4	5633.7	5620.3
10°	5586.8	5586.8	5580.1	5546.5	5539.8
12.5°	5479.5	5472.8	5445.9	5399.0	5385.6
15°	5331.9	5331.9	5278.3	5224.6	5204.5
17.5°	5171.0	5164.3	5097.2	5043.5	5016.7
20°	4996.6	4983.2	4916.1	4828.9	4782.0
22.5°	4802.1	4802.1	4721.6	4607.6	4560.6
25°	4621.0	4594.2	4520.4	4359.4	4238.7
27.5°	4413.1	4372.9	4292.4	4064.3	3923.5
30°	4185.1	4164.9	4050.9	3755.8	3648.5
32.5°	3970.4	3936.9	3816.2	3507.7	3420.5
35°	3749.1	3722.3	3541.2	3272.9	3192.4
37.5°	3527.8	3494.3	3266.2	3051.6	2951.0
40°	3306.5	3266.2	3018.1	2823.6	2716.3
42.5°	3098.6	3044.9	2803.5	2595.5	2474.8
45°	2877.2	2816.9	2575.4	2360.8	2266.9
47.5°	2655.9	2602.2	2380.9	2159.6	2052.3
50°	2421.2	2374.2	2173.0	1951.7	1837.7
52.5°	2226.7	2152.9	1958.4	1737.1	1643.2
55°	1998.6	1938.3	1757.2	1549.3	1468.8
57.5°	1790.7	1730.4	1562.7	1368.2	1301.1
60°	1596.2	1509.0	1368.2	1200.5	1146.9
62.5°	1381.6	1314.5	1193.8	1053.0	1120.0
65°	1187.1	1120.0	1012.7	1032.9	858.5
67.5°	972.5	939.0	845.1	751.2	724.3
70°	791.4	751.2	717.6	617.0	590.2
72.5°	630.4	590.2	543.3	489.6	469.5
75°	476.2	442.7	415.8	395.7	435.9
77.5°	328.6	315.2	295.1	275.0	268.3
80°	214.6	207.9	201.2	194.5	187.8
82.5°	127.4	127.4	127.4	127.4	127.4
85°	67.1	73.8	80.5	87.2	93.9
87.5°	40.2	40.2	46.9	53.7	60.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)