

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: P564040

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564040
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-81-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10477.0 lumens
Efficiency: N/A
Efficacy: 78.7 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

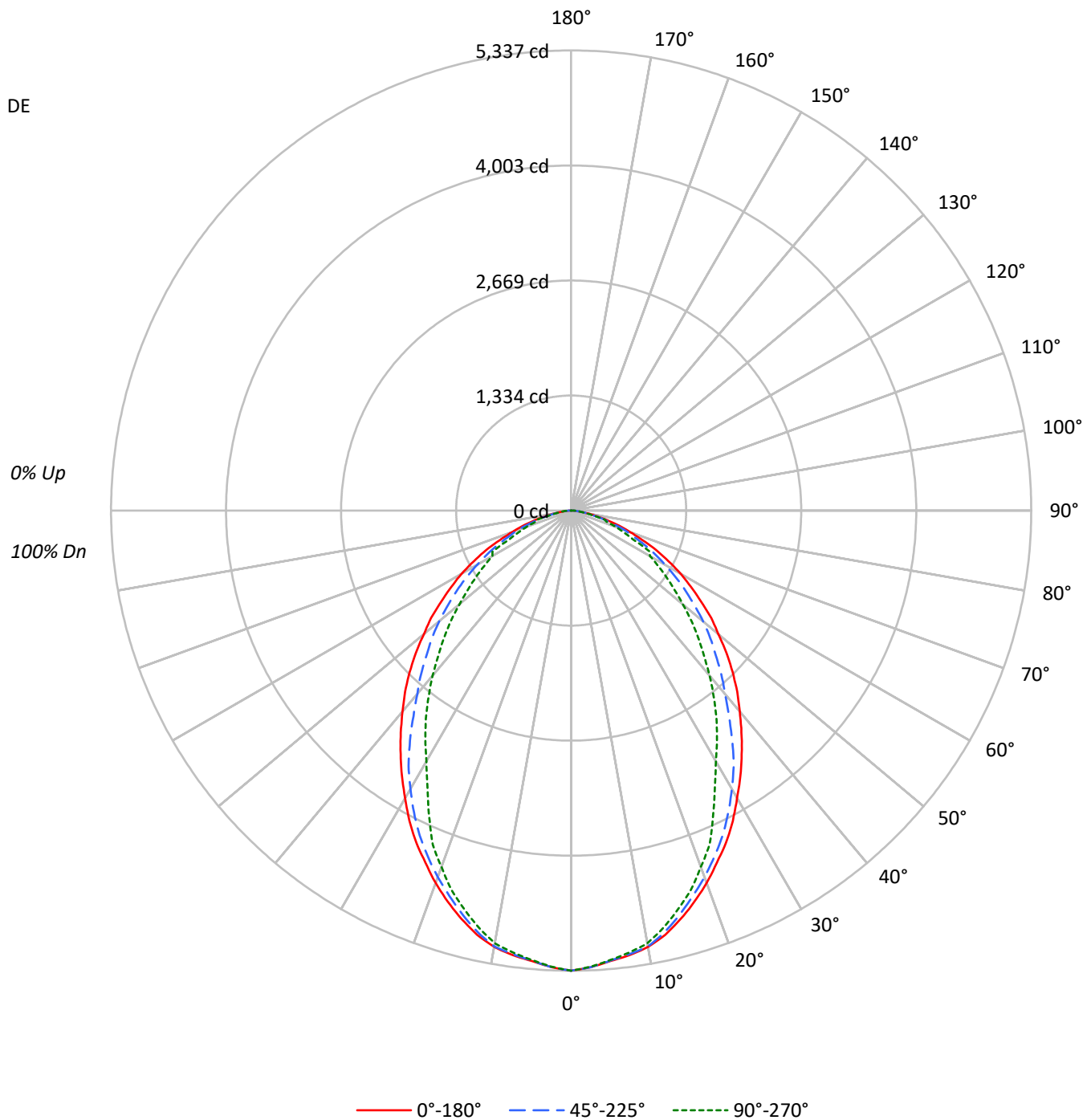
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7181	7181	7181
5°	7083	7075	7066
10°	7022	7013	6963
15°	6832	6764	6669
20°	6581	6475	6299
25°	6311	6173	5789
30°	5981	5790	5215
35°	5665	5351	4824
40°	5342	4877	4389
45°	5036	4508	3968
50°	4662	4184	3539
55°	4313	3792	3170
60°	3951	3387	2839
65°	3477	2966	2514
70°	2864	2597	2136
75°	2277	1988	2085
80°	1530	1434	1339
85°	953	1142	1334

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5036 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	496.8	4.7
10°-20°	1363.4	13.0
20°-30°	1887.5	18.0
30°-40°	2012.7	19.2
40°-50°	1836.1	17.5
50°-60°	1438.5	13.7
60°-70°	937.5	8.9
70°-80°	415.4	4.0
80°-90°	89.2	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°	3747.7	35.8
0°-40°	5760.4	55.0
0°-60°	9035.0	86.2
0°-90°	10477.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10477.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5337	5337	5337	5337	5337	
5°	5244	5238	5238	5232	5232	498
15°	4905	4905	4856	4806	4788	1379
25°	4251	4226	4158	4010	3899	1952
35°	3449	3424	3258	3011	2937	2156
45°	2647	2591	2369	2172	2085	2039
55°	1839	1783	1616	1425	1351	1649
65°	1092	1030	932	950	790	1076
75°	438	407	382	364	401	469
85°	62	68	74	80	86	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5336.8	5336.8	5336.8	5336.8	5336.8
2.5°	5299.8	5299.8	5299.8	5293.7	5293.7
5°	5244.3	5238.1	5238.1	5232.0	5232.0
7.5°	5201.1	5194.9	5188.8	5182.6	5170.3
10°	5139.4	5139.4	5133.2	5102.4	5096.2
12.5°	5040.7	5034.5	5009.8	4966.7	4954.3
15°	4905.0	4905.0	4855.6	4806.2	4787.7
17.5°	4756.9	4750.7	4689.0	4639.7	4615.0
20°	4596.5	4584.1	4522.4	4442.2	4399.0
22.5°	4417.5	4417.5	4343.5	4238.6	4195.4
25°	4251.0	4226.3	4158.4	4010.3	3899.3
27.5°	4059.7	4022.7	3948.6	3738.9	3609.3
30°	3849.9	3831.4	3726.5	3455.1	3356.4
32.5°	3652.5	3621.7	3510.6	3226.8	3146.6
35°	3448.9	3424.2	3257.6	3010.8	2936.8
37.5°	3245.3	3214.4	3004.7	2807.2	2714.7
40°	3041.7	3004.7	2776.4	2597.5	2498.8
42.5°	2850.4	2801.1	2579.0	2387.7	2276.6
45°	2646.8	2591.3	2369.2	2171.8	2085.4
47.5°	2443.2	2393.9	2190.3	1986.7	1887.9
50°	2227.3	2184.1	1999.0	1795.4	1690.5
52.5°	2048.4	1980.5	1801.6	1598.0	1511.6
55°	1838.6	1783.1	1616.5	1425.2	1351.2
57.5°	1647.3	1591.8	1437.6	1258.6	1196.9
60°	1468.4	1388.2	1258.6	1104.4	1055.0
62.5°	1271.0	1209.3	1098.2	968.7	1030.4
65°	1092.0	1030.4	931.6	950.1	789.7
67.5°	894.6	863.8	777.4	691.0	666.3
70°	728.0	691.0	660.2	567.6	542.9
72.5°	580.0	542.9	499.8	450.4	431.9
75°	438.1	407.2	382.5	364.0	401.0
77.5°	302.3	290.0	271.5	253.0	246.8
80°	197.4	191.3	185.1	178.9	172.8
82.5°	117.2	117.2	117.2	117.2	117.2
85°	61.7	67.9	74.0	80.2	86.4
87.5°	37.0	37.0	43.2	49.4	55.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)