

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: P563749

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563749
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-LD4-4HI-40-UNV-93-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18777.0 lumens
Efficiency: N/A
Efficacy: 108.7 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

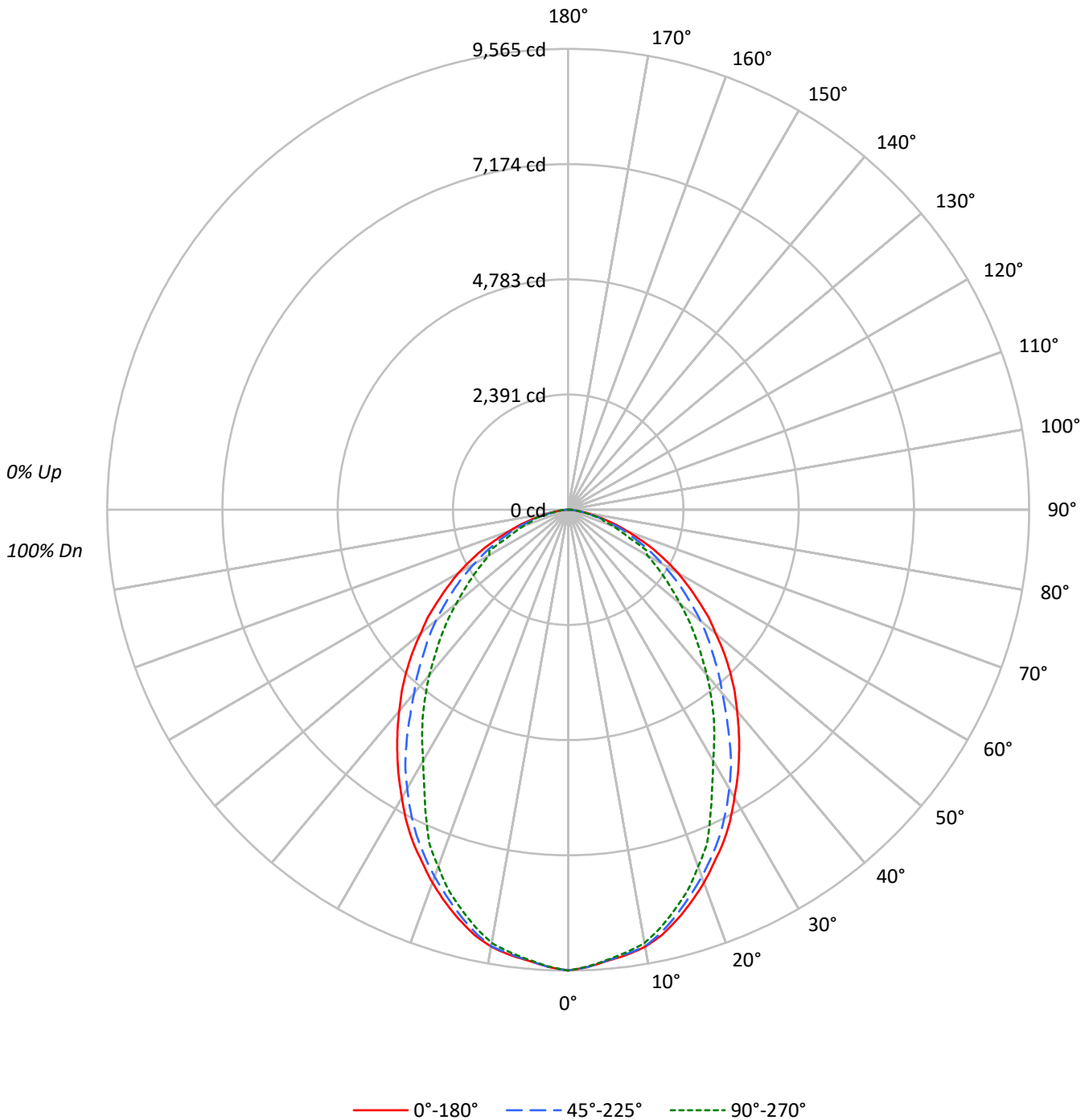
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	12869	12869	12869
5°	12694	12679	12665
10°	12584	12569	12479
15°	12245	12122	11952
20°	11795	11605	11289
25°	11310	11064	10375
30°	10720	10376	9346
35°	10153	9590	8645
40°	9575	8740	7866
45°	9026	8080	7112
50°	8356	7499	6342
55°	7730	6796	5681
60°	7082	6070	5088
65°	6231	5316	4506
70°	5133	4655	3828
75°	4081	3564	3736
80°	2741	2570	2399
85°	1707	2049	2390

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9026 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	890.3	4.7
10°-20°	2443.5	13.0
20°-30°	3382.8	18.0
30°-40°	3607.1	19.2
40°-50°	3290.7	17.5
50°-60°	2578.0	13.7
60°-70°	1680.2	8.9
70°-80°	744.4	4.0
80°-90°	159.8	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°	6716.7	35.8
0°-40°	10323.8	55.0
0°-60°	16192.5	86.2
0°-90°	18777.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18777.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9565	9565	9565	9565	9565	
5°	9399	9388	9388	9377	9377	892
15°	8791	8791	8702	8614	8581	2471
25°	7619	7574	7453	7187	6988	3498
35°	6181	6137	5838	5396	5263	3864
45°	4744	4644	4246	3892	3737	3654
55°	3295	3196	2897	2554	2422	2956
65°	1957	1847	1670	1703	1415	1929
75°	785	730	686	652	719	841
85°	111	122	133	144	155	153
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9564.8	9564.8	9564.8	9564.8	9564.8
2.5°	9498.4	9498.4	9498.4	9487.4	9487.4
5°	9398.9	9387.8	9387.8	9376.8	9376.8
7.5°	9321.5	9310.4	9299.4	9288.3	9266.2
10°	9210.9	9210.9	9199.9	9144.6	9133.5
12.5°	9034.0	9022.9	8978.7	8901.3	8879.2
15°	8790.7	8790.7	8702.3	8613.8	8580.6
17.5°	8525.3	8514.3	8403.7	8315.3	8271.0
20°	8237.9	8215.7	8105.2	7961.4	7884.0
22.5°	7917.2	7917.2	7784.5	7596.5	7519.1
25°	7618.6	7574.4	7452.8	7187.4	6988.4
27.5°	7275.8	7209.5	7076.8	6700.9	6468.6
30°	6899.9	6866.7	6678.7	6192.2	6015.3
32.5°	6546.1	6490.8	6291.7	5783.1	5639.3
35°	6181.2	6136.9	5838.4	5396.1	5263.4
37.5°	5816.3	5761.0	5385.0	5031.2	4865.3
40°	5451.4	5385.0	4975.9	4655.2	4478.3
42.5°	5108.6	5020.1	4622.0	4279.3	4080.2
45°	4743.7	4644.2	4246.1	3892.2	3737.4
47.5°	4378.8	4290.3	3925.4	3560.5	3383.6
50°	3991.8	3914.4	3582.6	3217.7	3029.8
52.5°	3671.1	3549.5	3228.8	2863.9	2709.1
55°	3295.1	3195.6	2897.1	2554.3	2421.6
57.5°	2952.4	2852.8	2576.4	2255.7	2145.2
60°	2631.7	2487.9	2255.7	1979.3	1890.8
62.5°	2277.8	2167.3	1968.2	1736.0	1846.6
65°	1957.2	1846.6	1669.7	1702.9	1415.4
67.5°	1603.3	1548.1	1393.2	1238.4	1194.2
70°	1304.8	1238.4	1183.2	1017.3	973.1
72.5°	1039.4	973.1	895.7	807.2	774.0
75°	785.1	729.8	685.6	652.4	718.7
77.5°	541.8	519.7	486.5	453.4	442.3
80°	353.8	342.8	331.7	320.7	309.6
82.5°	210.1	210.1	210.1	210.1	210.1
85°	110.6	121.6	132.7	143.7	154.8
87.5°	66.3	66.3	77.4	88.5	99.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)