

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: P564042

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564042
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-81-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 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: 12437.0 lumens
Efficiency: N/A
Efficacy: 93.4 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

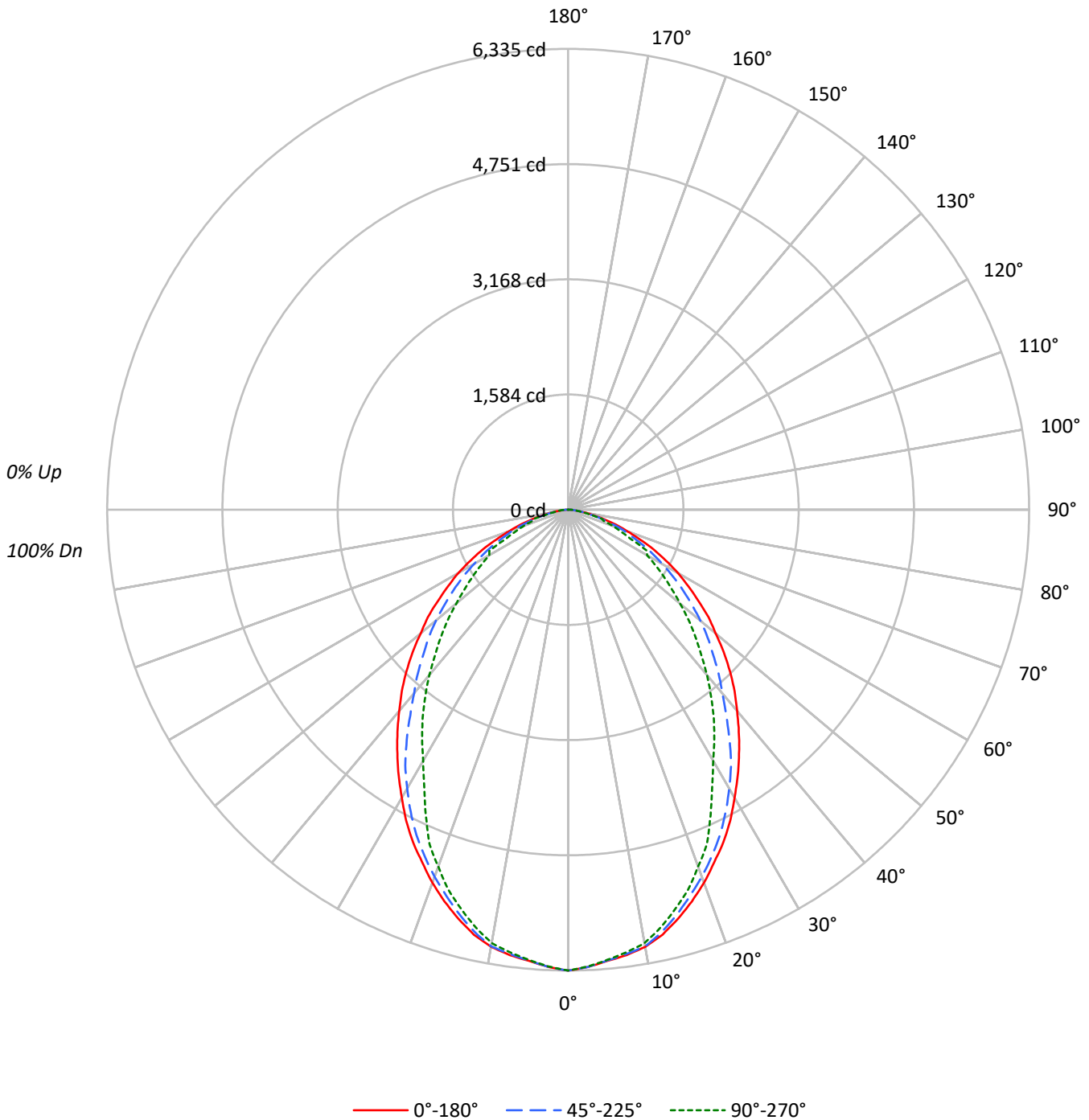
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8524	8524	8524
5°	8408	8398	8388
10°	8335	8325	8265
15°	8111	8029	7917
20°	7813	7687	7477
25°	7492	7328	6872
30°	7100	6873	6190
35°	6725	6352	5726
40°	6342	5789	5210
45°	5979	5351	4710
50°	5534	4967	4201
55°	5120	4501	3763
60°	4691	4021	3370
65°	4127	3521	2985
70°	3400	3083	2535
75°	2703	2361	2475
80°	1816	1702	1589
85°	1130	1357	1582

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5979 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	589.7	4.7
10°-20°	1618.5	13.0
20°-30°	2240.6	18.0
30°-40°	2389.2	19.2
40°-50°	2179.6	17.5
50°-60°	1707.6	13.7
60°-70°	1112.9	8.9
70°-80°	493.1	4.0
80°-90°	105.9	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°	4448.8	35.8
0°-40°	6838.0	55.0
0°-60°	10725.2	86.2
0°-90°	12437.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12437.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6335	6335	6335	6335	6335	
5°	6225	6218	6218	6211	6211	591
15°	5823	5823	5764	5705	5683	1637
25°	5046	5017	4936	4761	4629	2317
35°	4094	4065	3867	3574	3486	2560
45°	3142	3076	2812	2578	2476	2420
55°	2182	2117	1919	1692	1604	1958
65°	1296	1223	1106	1128	938	1278
75°	520	483	454	432	476	557
85°	73	81	88	95	102	102
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6335.2	6335.2	6335.2	6335.2	6335.2
2.5°	6291.3	6291.3	6291.3	6284.0	6284.0
5°	6225.4	6218.1	6218.1	6210.7	6210.7
7.5°	6174.1	6166.8	6159.5	6152.1	6137.5
10°	6100.9	6100.9	6093.6	6056.9	6049.6
12.5°	5983.7	5976.4	5947.1	5895.8	5881.2
15°	5822.6	5822.6	5764.0	5705.4	5683.4
17.5°	5646.8	5639.5	5566.2	5507.6	5478.3
20°	5456.4	5441.7	5368.5	5273.3	5222.0
22.5°	5244.0	5244.0	5156.1	5031.6	4980.3
25°	5046.2	5016.9	4936.4	4760.6	4628.8
27.5°	4819.2	4775.2	4687.3	4438.3	4284.5
30°	4570.2	4548.2	4423.7	4101.4	3984.2
32.5°	4335.8	4299.2	4167.3	3830.4	3735.2
35°	4094.1	4064.8	3867.1	3574.1	3486.2
37.5°	3852.4	3815.8	3566.8	3332.4	3222.6
40°	3610.7	3566.8	3295.8	3083.4	2966.2
42.5°	3383.7	3325.1	3061.4	2834.4	2702.5
45°	3142.0	3076.1	2812.4	2578.0	2475.5
47.5°	2900.3	2841.7	2600.0	2358.3	2241.1
50°	2644.0	2592.7	2373.0	2131.3	2006.8
52.5°	2431.6	2351.0	2138.6	1896.9	1794.4
55°	2182.5	2116.6	1918.9	1691.8	1604.0
57.5°	1955.5	1889.6	1706.5	1494.1	1420.9
60°	1743.1	1647.9	1494.1	1311.0	1252.4
62.5°	1508.7	1435.5	1303.7	1149.9	1223.1
65°	1296.3	1223.1	1105.9	1127.9	937.5
67.5°	1062.0	1025.4	922.8	820.3	791.0
70°	864.2	820.3	783.7	673.8	644.5
72.5°	688.5	644.5	593.2	534.7	512.7
75°	520.0	483.4	454.1	432.1	476.1
77.5°	358.9	344.2	322.3	300.3	293.0
80°	234.4	227.0	219.7	212.4	205.1
82.5°	139.2	139.2	139.2	139.2	139.2
85°	73.2	80.6	87.9	95.2	102.5
87.5°	43.9	43.9	51.3	58.6	65.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)