

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: P564015

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564015
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-LD4-4LO-50-UNV-93-97-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

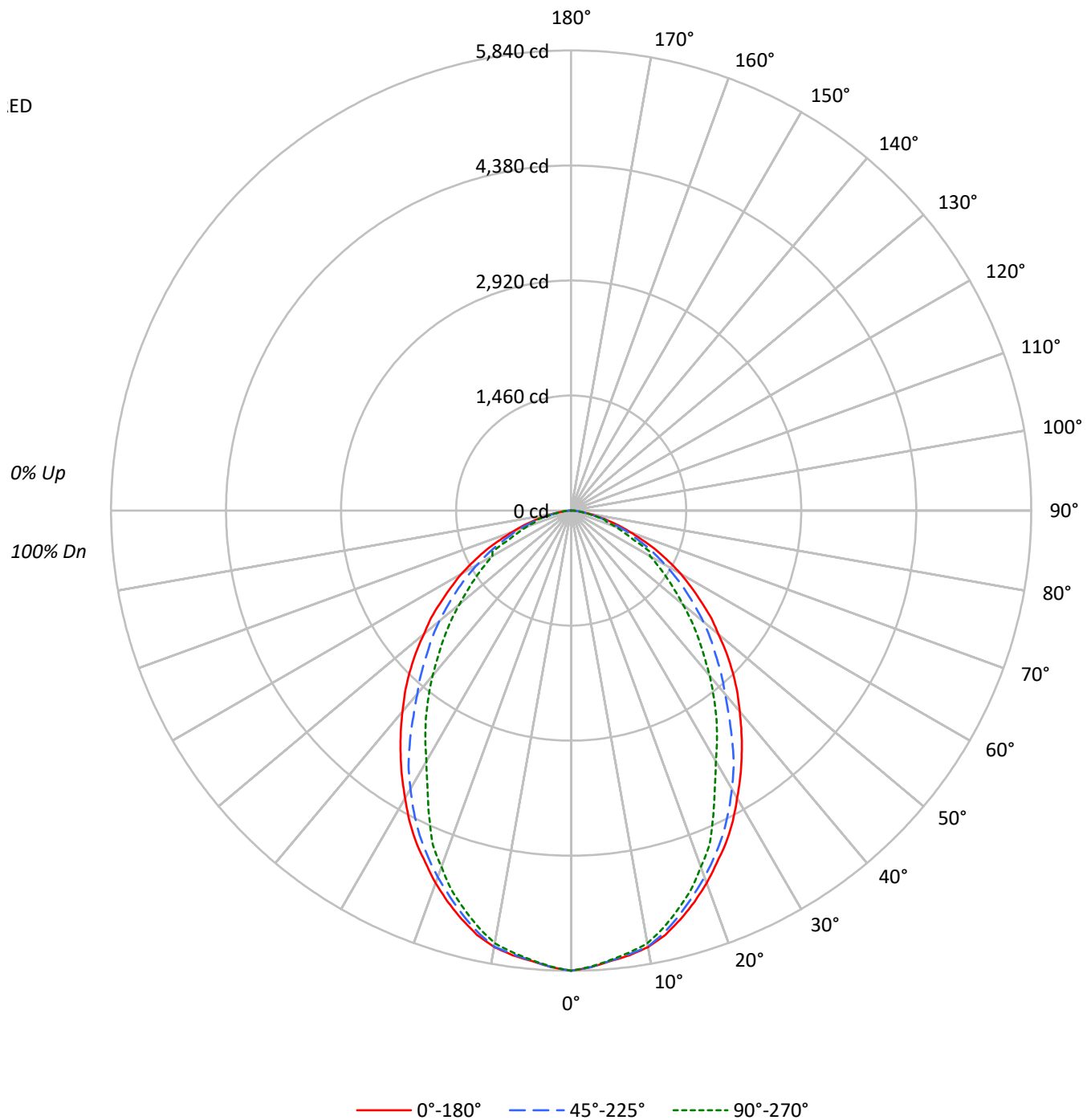
Lumens per Lamp: N/A
Luminaire Lumens: 11465.0 lumens
Efficiency: N/A
Efficacy: 122.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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°	7858	7858	7858
5°	7751	7742	7733
10°	7684	7675	7619
15°	7477	7401	7298
20°	7202	7086	6893
25°	6906	6756	6335
30°	6545	6336	5706
35°	6199	5855	5279
40°	5846	5336	4803
45°	5511	4933	4342
50°	5102	4579	3872
55°	4720	4149	3468
60°	4324	3706	3107
65°	3805	3246	2751
70°	3134	2842	2337
75°	2492	2176	2282
80°	1674	1569	1464
85°	1042	1250	1459

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5511 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	543.6	4.7
10°-20°	1492.0	13.0
20°-30°	2065.5	18.0
30°-40°	2202.4	19.2
40°-50°	2009.3	17.5
50°-60°	1574.1	13.7
60°-70°	1025.9	8.9
70°-80°	454.5	4.0
80°-90°	97.6	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°	4101.1	35.8
0°-40°	6303.6	55.0
0°-60°	9886.9	86.2
0°-90°	11465.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11465.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5840	5840	5840	5840	5840	
5°	5739	5732	5732	5725	5725	545
15°	5368	5368	5314	5260	5239	1509
25°	4652	4625	4551	4388	4267	2136
35°	3774	3747	3565	3295	3214	2360
45°	2896	2836	2593	2377	2282	2231
55°	2012	1951	1769	1560	1479	1805
65°	1195	1128	1020	1040	864	1178
75°	479	446	419	398	439	514
85°	68	74	81	88	94	94
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5840.1	5840.1	5840.1	5840.1	5840.1
2.5°	5799.6	5799.6	5799.6	5792.9	5792.9
5°	5738.8	5732.1	5732.1	5725.3	5725.3
7.5°	5691.6	5684.8	5678.1	5671.3	5657.8
10°	5624.1	5624.1	5617.3	5583.6	5576.8
12.5°	5516.0	5509.3	5482.3	5435.0	5421.5
15°	5367.5	5367.5	5313.5	5259.5	5239.2
17.5°	5205.5	5198.7	5131.2	5077.2	5050.2
20°	5029.9	5016.4	4948.9	4861.1	4813.9
22.5°	4834.1	4834.1	4753.1	4638.3	4591.1
25°	4651.8	4624.8	4550.6	4388.5	4267.0
27.5°	4442.5	4402.0	4321.0	4091.5	3949.7
30°	4213.0	4192.7	4078.0	3780.9	3672.9
32.5°	3996.9	3963.2	3841.6	3531.1	3443.3
35°	3774.1	3747.1	3564.8	3294.8	3213.8
37.5°	3551.3	3517.6	3288.0	3072.0	2970.7
40°	3328.5	3288.0	3038.2	2842.4	2734.4
42.5°	3119.2	3065.2	2822.2	2612.9	2491.3
45°	2896.4	2835.7	2592.6	2376.6	2282.0
47.5°	2673.6	2619.6	2396.8	2174.0	2066.0
50°	2437.3	2390.1	2187.5	1964.7	1849.9
52.5°	2241.5	2167.3	1971.5	1748.7	1654.1
55°	2012.0	1951.2	1768.9	1559.6	1478.6
57.5°	1802.7	1741.9	1573.1	1377.3	1309.8
60°	1606.9	1519.1	1377.3	1208.5	1154.5
62.5°	1390.8	1323.3	1201.8	1060.0	1127.5
65°	1195.0	1127.5	1019.5	1039.7	864.2
67.5°	979.0	945.2	850.7	756.2	729.2
70°	796.7	756.2	722.4	621.1	594.1
72.5°	634.6	594.1	546.9	492.9	472.6
75°	479.4	445.6	418.6	398.3	438.9
77.5°	330.8	317.3	297.1	276.8	270.1
80°	216.1	209.3	202.5	195.8	189.0
82.5°	128.3	128.3	128.3	128.3	128.3
85°	67.5	74.3	81.0	87.8	94.5
87.5°	40.5	40.5	47.3	54.0	60.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)