

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: P561518

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561518
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-12-4-LD4-2HI-50-UNV-93-97-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

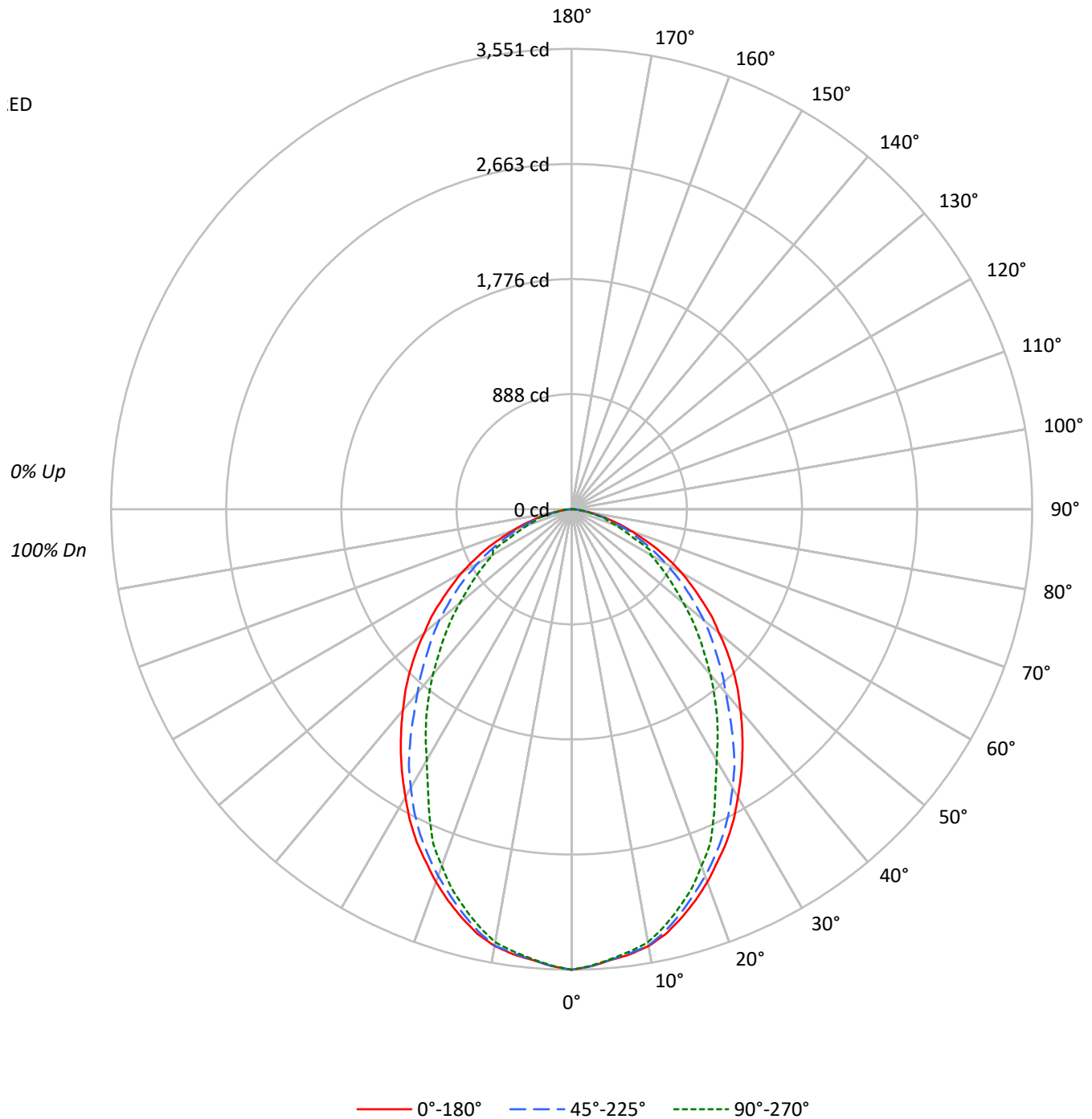
Lumens per Lamp: N/A
Luminaire Lumens: 6972.0 lumens
Efficiency: N/A
Efficacy: 80.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	9557	9557	9557
5°	9427	9416	9405
10°	9345	9334	9267
15°	9093	9002	8876
20°	8759	8618	8383
25°	8399	8217	7704
30°	7961	7706	6940
35°	7540	7121	6420
40°	7110	6490	5841
45°	6703	6000	5281
50°	6205	5569	4710
55°	5740	5047	4219
60°	5259	4508	3779
65°	4627	3948	3346
70°	3812	3456	2843
75°	3031	2647	2775
80°	2036	1909	1782
85°	1269	1522	1775

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6703 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	330.6	4.7
10°-20°	907.3	13.0
20°-30°	1256.1	18.0
30°-40°	1339.3	19.2
40°-50°	1221.9	17.5
50°-60°	957.2	13.7
60°-70°	623.9	8.9
70°-80°	276.4	4.0
80°-90°	59.3	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°	2493.9	35.8
0°-40°	3833.3	55.0
0°-60°	6012.4	86.2
0°-90°	6972.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6972.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3551	3551	3551	3551	3551	
5°	3490	3486	3486	3482	3482	331
15°	3264	3264	3231	3198	3186	918
25°	2829	2812	2767	2669	2595	1299
35°	2295	2279	2168	2004	1954	1435
45°	1761	1724	1577	1445	1388	1357
55°	1224	1187	1076	948	899	1097
65°	727	686	620	632	526	716
75°	292	271	255	242	267	312
85°	41	45	49	53	58	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3551.4	3551.4	3551.4	3551.4	3551.4
2.5°	3526.8	3526.8	3526.8	3522.7	3522.7
5°	3489.9	3485.8	3485.8	3481.6	3481.6
7.5°	3461.1	3457.0	3452.9	3448.8	3440.6
10°	3420.1	3420.1	3416.0	3395.4	3391.3
12.5°	3354.4	3350.3	3333.8	3305.1	3296.9
15°	3264.0	3264.0	3231.2	3198.4	3186.0
17.5°	3165.5	3161.4	3120.3	3087.5	3071.1
20°	3058.8	3050.5	3009.5	2956.1	2927.4
22.5°	2939.7	2939.7	2890.4	2820.6	2791.9
25°	2828.8	2812.4	2767.3	2668.7	2594.8
27.5°	2701.6	2676.9	2627.7	2488.1	2401.8
30°	2562.0	2549.6	2479.9	2299.2	2233.5
32.5°	2430.6	2410.1	2336.2	2147.3	2093.9
35°	2295.1	2278.7	2167.8	2003.6	1954.3
37.5°	2159.6	2139.1	1999.5	1868.1	1806.5
40°	2024.1	1999.5	1847.6	1728.5	1662.8
42.5°	1896.8	1864.0	1716.2	1588.9	1515.0
45°	1761.4	1724.4	1576.6	1445.2	1387.7
47.5°	1625.9	1593.0	1457.5	1322.0	1256.3
50°	1482.2	1453.4	1330.3	1194.8	1125.0
52.5°	1363.1	1317.9	1198.9	1063.4	1005.9
55°	1223.5	1186.6	1075.7	948.4	899.2
57.5°	1096.2	1059.3	956.6	837.6	796.5
60°	977.2	923.8	837.6	734.9	702.1
62.5°	845.8	804.7	730.8	644.6	685.7
65°	726.7	685.7	620.0	632.3	525.5
67.5°	595.3	574.8	517.3	459.8	443.4
70°	484.5	459.8	439.3	377.7	361.3
72.5°	385.9	361.3	332.6	299.7	287.4
75°	291.5	271.0	254.6	242.2	266.9
77.5°	201.2	193.0	180.7	168.3	164.2
80°	131.4	127.3	123.2	119.1	115.0
82.5°	78.0	78.0	78.0	78.0	78.0
85°	41.1	45.2	49.3	53.4	57.5
87.5°	24.6	24.6	28.7	32.8	37.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)