

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: P563724

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563724
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-81-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15300.0 lumens
Efficiency: N/A
Efficacy: 88.5 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

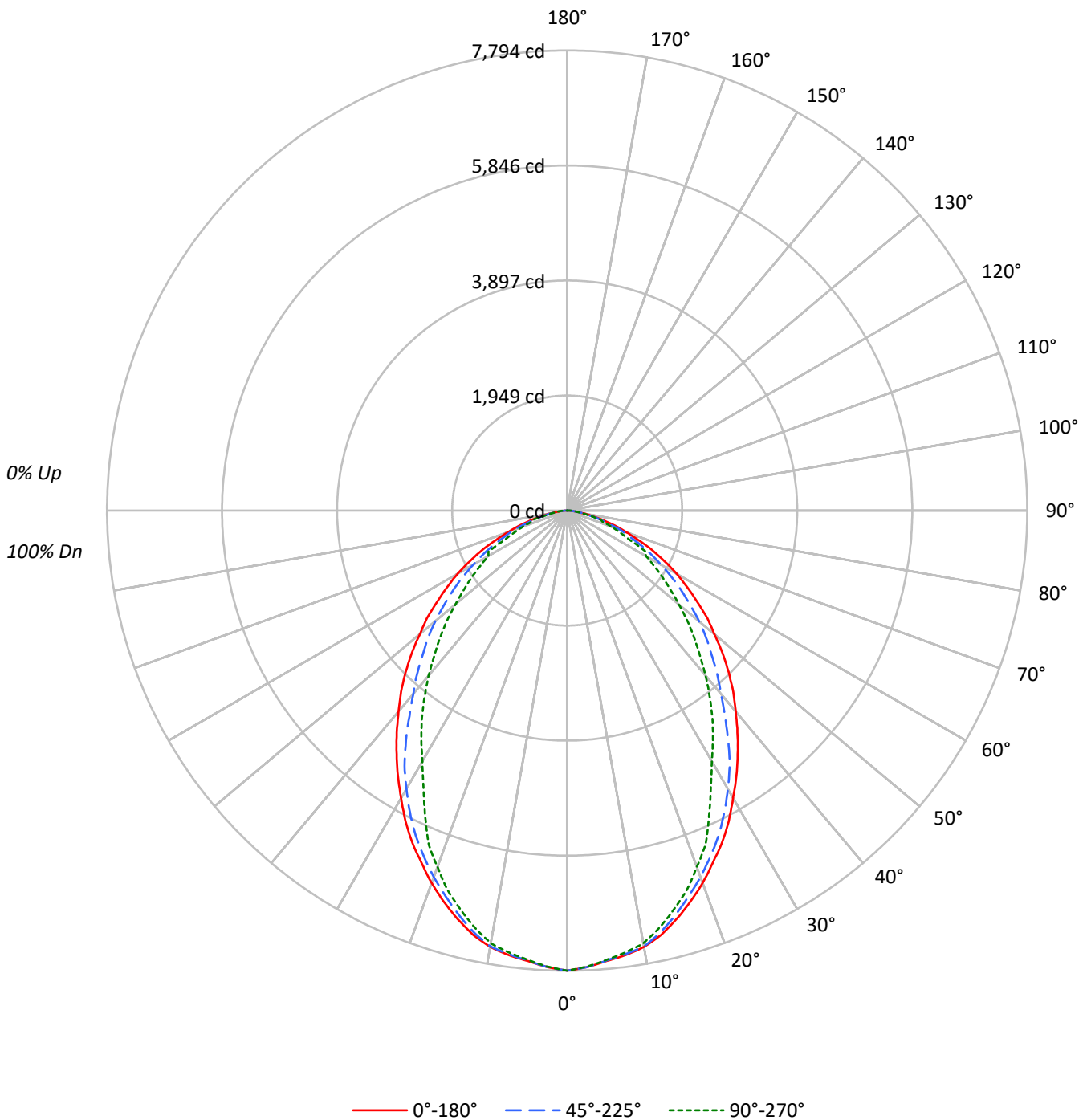
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10486	10486	10486
5°	10344	10332	10319
10°	10254	10242	10168
15°	9978	9877	9739
20°	9611	9456	9198
25°	9216	9015	8454
30°	8735	8455	7615
35°	8273	7814	7044
40°	7802	7121	6409
45°	7355	6583	5795
50°	6808	6110	5168
55°	6298	5537	4629
60°	5771	4946	4146
65°	5077	4331	3672
70°	4183	3793	3119
75°	3326	2904	3044
80°	2234	2094	1955
85°	1391	1669	1947

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7355 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	725.5	4.7
10°-20°	1991.0	13.0
20°-30°	2756.4	18.0
30°-40°	2939.2	19.2
40°-50°	2681.4	17.5
50°-60°	2100.6	13.7
60°-70°	1369.1	8.9
70°-80°	606.6	4.0
80°-90°	130.2	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°	5472.9	35.8
0°-40°	8412.1	55.0
0°-60°	13194.1	86.2
0°-90°	15300.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15300.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7794	7794	7794	7794	7794	
5°	7658	7650	7650	7640	7640	727
15°	7163	7163	7091	7019	6992	2014
25°	6208	6172	6073	5856	5694	2850
35°	5037	5000	4757	4397	4289	3149
45°	3865	3784	3460	3172	3045	2977
55°	2685	2604	2361	2081	1973	2408
65°	1595	1505	1360	1388	1153	1572
75°	640	595	559	532	586	686
85°	90	99	108	117	126	125
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7793.6	7793.6	7793.6	7793.6	7793.6
2.5°	7739.6	7739.6	7739.6	7730.5	7730.5
5°	7658.5	7649.5	7649.5	7640.4	7640.4
7.5°	7595.4	7586.4	7577.4	7568.4	7550.3
10°	7505.3	7505.3	7496.3	7451.2	7442.2
12.5°	7361.1	7352.1	7316.1	7253.0	7235.0
15°	7162.9	7162.9	7090.8	7018.8	6991.7
17.5°	6946.7	6937.7	6847.6	6775.5	6739.5
20°	6712.4	6694.4	6604.3	6487.2	6424.1
22.5°	6451.1	6451.1	6343.0	6189.8	6126.8
25°	6207.9	6171.8	6072.7	5856.5	5694.3
27.5°	5928.6	5874.5	5766.4	5460.0	5270.8
30°	5622.2	5595.2	5442.0	5045.6	4901.4
32.5°	5333.9	5288.8	5126.7	4712.2	4595.1
35°	5036.6	5000.5	4757.3	4396.9	4288.7
37.5°	4739.2	4694.2	4387.9	4099.5	3964.4
40°	4441.9	4387.9	4054.5	3793.2	3649.0
42.5°	4162.6	4090.5	3766.2	3486.9	3324.7
45°	3865.3	3784.2	3459.8	3171.5	3045.4
47.5°	3567.9	3495.9	3198.5	2901.2	2757.0
50°	3252.6	3189.5	2919.2	2621.9	2468.7
52.5°	2991.3	2892.2	2630.9	2333.6	2207.4
55°	2685.0	2603.9	2360.6	2081.3	1973.2
57.5°	2405.7	2324.6	2099.3	1838.0	1747.9
60°	2144.4	2027.2	1838.0	1612.8	1540.7
62.5°	1856.1	1766.0	1603.8	1414.6	1504.7
65°	1594.8	1504.7	1360.5	1387.5	1153.3
67.5°	1306.4	1261.4	1135.3	1009.1	973.1
70°	1063.2	1009.1	964.1	828.9	792.9
72.5°	846.9	792.9	729.8	657.7	630.7
75°	639.7	594.7	558.6	531.6	585.6
77.5°	441.5	423.5	396.4	369.4	360.4
80°	288.3	279.3	270.3	261.3	252.3
82.5°	171.2	171.2	171.2	171.2	171.2
85°	90.1	99.1	108.1	117.1	126.1
87.5°	54.1	54.1	63.1	72.1	81.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)