

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: P563149

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563149
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-LD4-3HI-40-UNV-81-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13657.0 lumens
Efficiency: N/A
Efficacy: 105.4 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

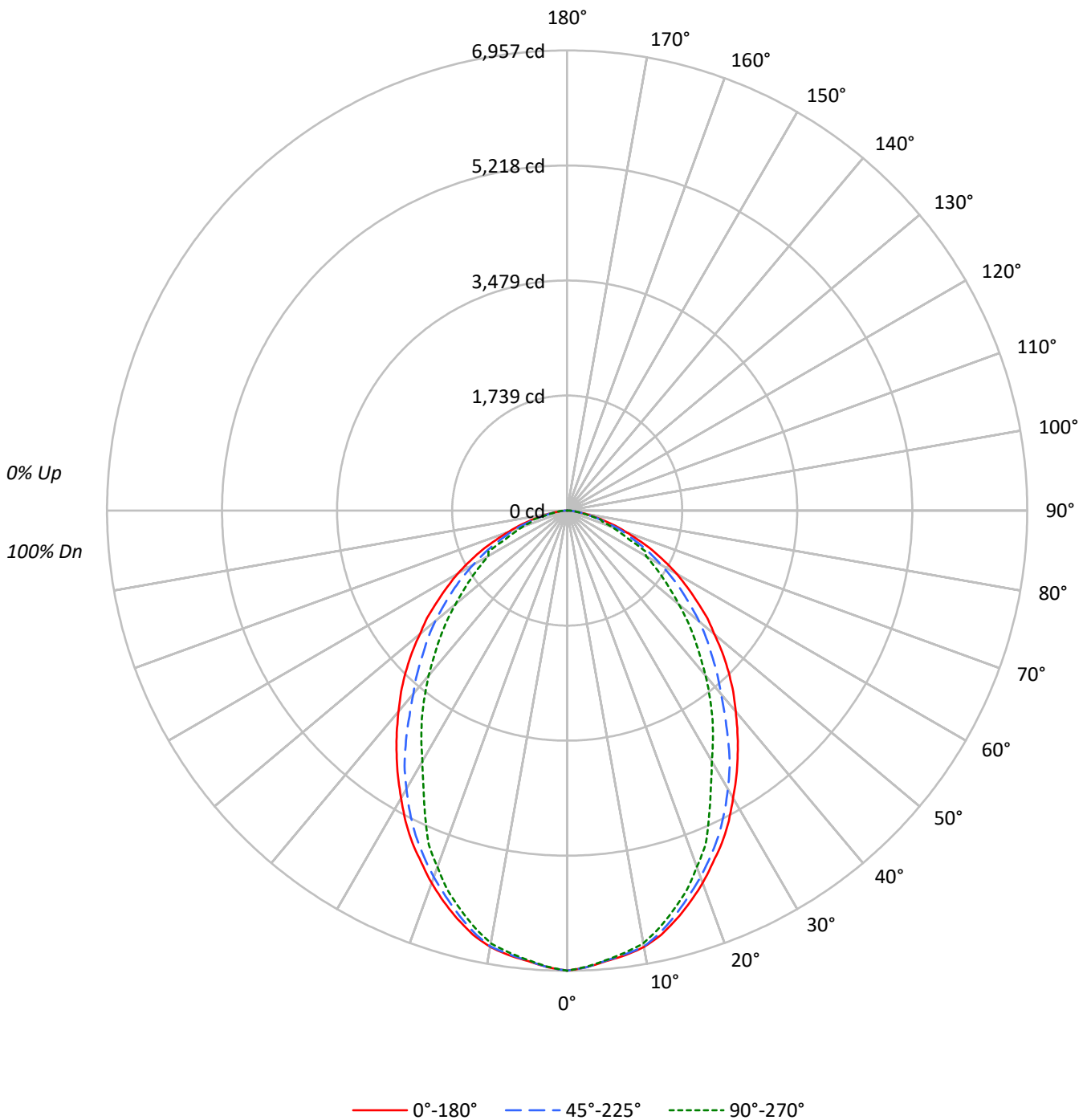
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9360	9360	9360
5°	9233	9222	9211
10°	9153	9142	9076
15°	8906	8817	8693
20°	8579	8441	8210
25°	8226	8047	7546
30°	7797	7547	6797
35°	7384	6975	6288
40°	6964	6357	5721
45°	6565	5876	5172
50°	6077	5454	4613
55°	5622	4943	4132
60°	5151	4415	3701
65°	4532	3866	3277
70°	3733	3385	2784
75°	2968	2592	2718
80°	1994	1870	1745
85°	1241	1490	1738

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6565 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	647.6	4.7
10°-20°	1777.2	13.0
20°-30°	2460.4	18.0
30°-40°	2623.5	19.2
40°-50°	2393.4	17.5
50°-60°	1875.1	13.7
60°-70°	1222.1	8.9
70°-80°	541.4	4.0
80°-90°	116.3	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°	4885.2	35.8
0°-40°	7508.8	55.0
0°-60°	11777.2	86.2
0°-90°	13657.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13657.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6957	6957	6957	6957	6957	
5°	6836	6828	6828	6820	6820	649
15°	6394	6394	6329	6265	6241	1797
25°	5541	5509	5421	5228	5083	2544
35°	4496	4464	4246	3925	3828	2811
45°	3450	3378	3088	2831	2718	2658
55°	2397	2324	2107	1858	1761	2150
65°	1424	1343	1214	1238	1029	1403
75°	571	531	499	474	523	612
85°	80	88	96	105	113	112
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6956.7	6956.7	6956.7	6956.7	6956.7
2.5°	6908.4	6908.4	6908.4	6900.4	6900.4
5°	6836.1	6828.0	6828.0	6820.0	6820.0
7.5°	6779.8	6771.7	6763.7	6755.6	6739.5
10°	6699.3	6699.3	6691.3	6651.1	6643.0
12.5°	6570.7	6562.6	6530.4	6474.1	6458.1
15°	6393.7	6393.7	6329.4	6265.0	6240.9
17.5°	6200.7	6192.7	6112.2	6047.9	6015.7
20°	5991.6	5975.5	5895.1	5790.5	5734.2
22.5°	5758.4	5758.4	5661.9	5525.1	5468.8
25°	5541.2	5509.1	5420.6	5227.6	5082.8
27.5°	5291.9	5243.7	5147.1	4873.7	4704.8
30°	5018.5	4994.3	4857.6	4503.8	4375.1
32.5°	4761.1	4720.9	4576.1	4206.2	4101.6
35°	4495.7	4463.5	4246.4	3924.7	3828.2
37.5°	4230.3	4190.1	3916.7	3659.3	3538.7
40°	3964.9	3916.7	3619.1	3385.9	3257.2
42.5°	3715.6	3651.3	3361.7	3112.4	2967.7
45°	3450.2	3377.8	3088.3	2830.9	2718.3
47.5°	3184.8	3120.5	2855.1	2589.7	2461.0
50°	2903.3	2847.0	2605.7	2340.3	2203.6
52.5°	2670.1	2581.6	2348.4	2083.0	1970.4
55°	2396.6	2324.3	2107.1	1857.8	1761.3
57.5°	2147.3	2074.9	1873.9	1640.7	1560.2
60°	1914.1	1809.5	1640.7	1439.6	1375.3
62.5°	1656.7	1576.3	1431.6	1262.7	1343.1
65°	1423.5	1343.1	1214.4	1238.5	1029.4
67.5°	1166.2	1125.9	1013.3	900.8	868.6
70°	949.0	900.8	860.5	739.9	707.7
72.5°	756.0	707.7	651.4	587.1	563.0
75°	571.0	530.8	498.6	474.5	522.8
77.5°	394.1	378.0	353.9	329.7	321.7
80°	257.4	249.3	241.3	233.2	225.2
82.5°	152.8	152.8	152.8	152.8	152.8
85°	80.4	88.5	96.5	104.6	112.6
87.5°	48.3	48.3	56.3	64.3	72.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)