

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: P564074

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564074
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-93-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13118.1 lumens
Efficiency: N/A
Efficacy: 98.5 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

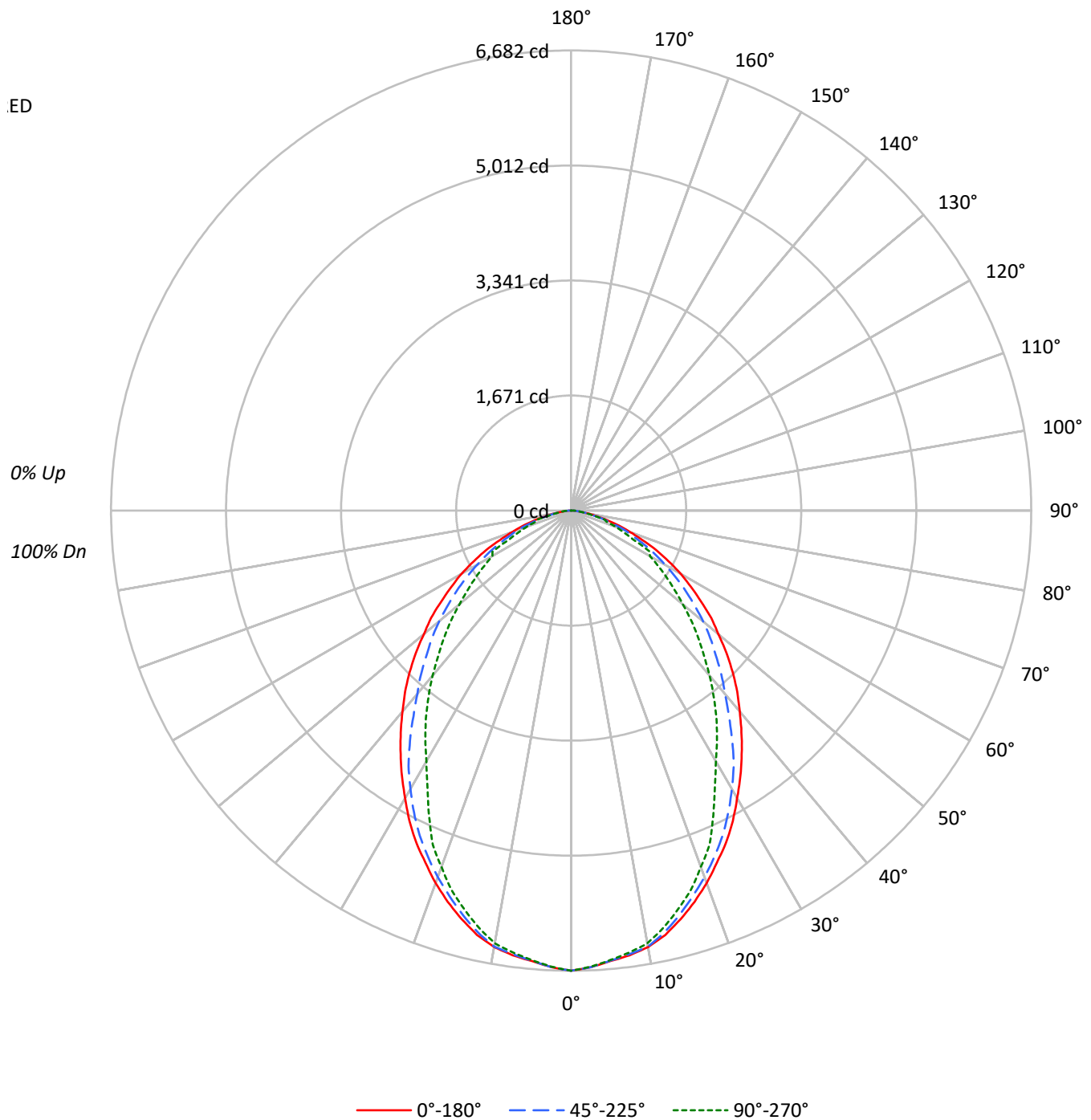
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8991	8991	8991
5°	8869	8858	8848
10°	8792	8781	8718
15°	8555	8469	8350
20°	8240	8108	7886
25°	7902	7730	7248
30°	7489	7249	6529
35°	7093	6700	6040
40°	6689	6106	5495
45°	6306	5644	4968
50°	5837	5239	4431
55°	5400	4748	3969
60°	4948	4241	3555
65°	4353	3714	3148
70°	3586	3252	2674
75°	2851	2490	2610
80°	1915	1796	1676
85°	1193	1431	1670

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6306 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	622.0	4.7
10°-20°	1707.1	13.0
20°-30°	2363.3	18.0
30°-40°	2520.0	19.2
40°-50°	2299.0	17.5
50°-60°	1801.1	13.7
60°-70°	1173.9	8.9
70°-80°	520.1	4.0
80°-90°	111.7	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°	4692.4	35.8
0°-40°	7212.4	55.0
0°-60°	11312.5	86.2
0°-90°	13118.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13118.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6682	6682	6682	6682	6682	
5°	6566	6558	6558	6551	6551	623
15°	6141	6141	6080	6018	5995	1727
25°	5322	5292	5207	5021	4882	2444
35°	4318	4287	4079	3770	3677	2700
45°	3314	3244	2966	2719	2611	2553
55°	2302	2232	2024	1784	1692	2065
65°	1367	1290	1166	1190	989	1348
75°	548	510	479	456	502	588
85°	77	85	93	100	108	107
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6682.1	6682.1	6682.1	6682.1	6682.1
2.5°	6635.8	6635.8	6635.8	6628.1	6628.1
5°	6566.3	6558.5	6558.5	6550.8	6550.8
7.5°	6512.2	6504.5	6496.7	6489.0	6473.6
10°	6434.9	6434.9	6427.2	6388.6	6380.9
12.5°	6311.3	6303.6	6272.7	6218.6	6203.2
15°	6141.4	6141.4	6079.6	6017.8	5994.6
17.5°	5956.0	5948.3	5871.0	5809.2	5778.3
20°	5755.1	5739.7	5662.4	5562.0	5507.9
22.5°	5531.1	5531.1	5438.4	5307.1	5253.0
25°	5322.5	5291.6	5206.7	5021.3	4882.2
27.5°	5083.1	5036.7	4944.0	4681.4	4519.1
30°	4820.4	4797.2	4665.9	4326.0	4202.4
32.5°	4573.2	4534.6	4395.5	4040.2	3939.8
35°	4318.3	4287.4	4078.8	3769.8	3677.1
37.5°	4063.4	4024.7	3762.1	3514.9	3399.0
40°	3808.4	3762.1	3476.3	3252.2	3128.6
42.5°	3569.0	3507.2	3229.1	2989.6	2850.5
45°	3314.0	3244.5	2966.4	2719.2	2611.1
47.5°	3059.1	2997.3	2742.4	2487.5	2363.9
50°	2788.7	2734.7	2502.9	2248.0	2116.7
52.5°	2564.7	2479.7	2255.7	2000.8	1892.6
55°	2302.1	2232.5	2024.0	1784.5	1691.8
57.5°	2062.6	1993.1	1799.9	1575.9	1498.7
60°	1838.6	1738.1	1575.9	1382.8	1321.0
62.5°	1591.4	1514.1	1375.1	1212.8	1290.1
65°	1367.3	1290.1	1166.5	1189.7	988.8
67.5°	1120.1	1081.5	973.4	865.2	834.3
70°	911.6	865.2	826.6	710.7	679.8
72.5°	726.2	679.8	625.7	563.9	540.8
75°	548.5	509.9	479.0	455.8	502.1
77.5°	378.5	363.1	339.9	316.7	309.0
80°	247.2	239.5	231.8	224.0	216.3
82.5°	146.8	146.8	146.8	146.8	146.8
85°	77.3	85.0	92.7	100.4	108.2
87.5°	46.4	46.4	54.1	61.8	69.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)