

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: P564168

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564168
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-50-UNV-81-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11189.0 lumens
Efficiency: N/A
Efficacy: 84.0 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

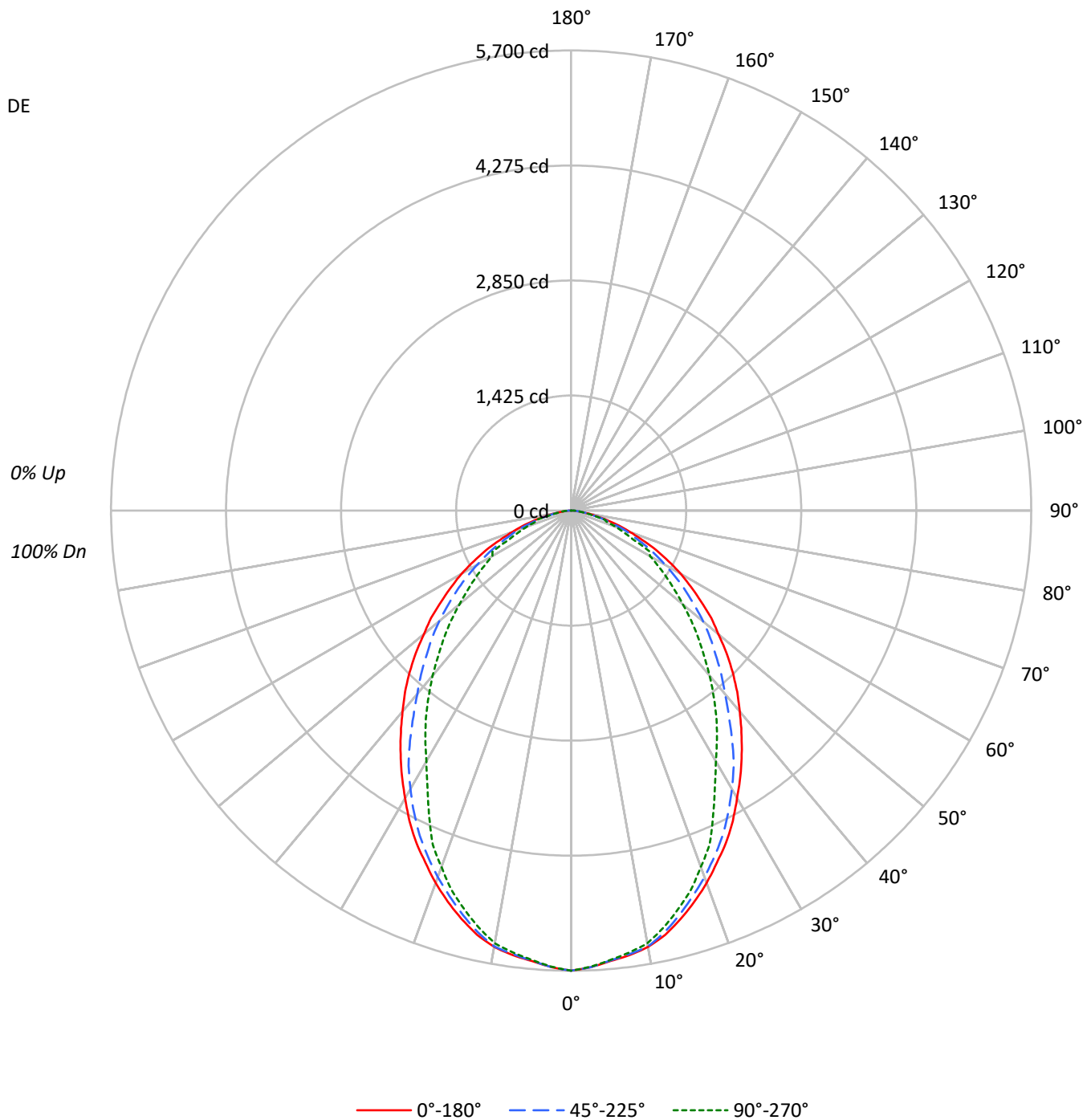
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7669	7669	7669
5°	7564	7556	7547
10°	7499	7490	7436
15°	7297	7223	7122
20°	7029	6916	6727
25°	6740	6593	6182
30°	6388	6183	5569
35°	6050	5714	5152
40°	5706	5208	4687
45°	5379	4814	4238
50°	4979	4469	3779
55°	4606	4050	3385
60°	4220	3617	3032
65°	3713	3167	2685
70°	3059	2773	2281
75°	2432	2124	2227
80°	1633	1532	1430
85°	1017	1221	1423

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5379 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	530.5	4.7
10°-20°	1456.1	13.0
20°-30°	2015.8	18.0
30°-40°	2149.4	19.2
40°-50°	1960.9	17.5
50°-60°	1536.2	13.7
60°-70°	1001.2	8.9
70°-80°	443.6	4.0
80°-90°	95.2	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°	4002.4	35.8
0°-40°	6151.8	55.0
0°-60°	9649.0	86.2
0°-90°	11189.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11189.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5700	5700	5700	5700	5700	
5°	5601	5594	5594	5588	5588	532
15°	5238	5238	5186	5133	5113	1473
25°	4540	4514	4441	4283	4164	2084
35°	3683	3657	3479	3216	3136	2303
45°	2827	2767	2530	2319	2227	2177
55°	1964	1904	1726	1522	1443	1761
65°	1166	1100	995	1015	843	1149
75°	468	435	408	389	428	501
85°	66	72	79	86	92	91
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5699.5	5699.5	5699.5	5699.5	5699.5
2.5°	5660.0	5660.0	5660.0	5653.4	5653.4
5°	5600.7	5594.1	5594.1	5587.5	5587.5
7.5°	5554.6	5548.0	5541.4	5534.8	5521.6
10°	5488.7	5488.7	5482.1	5449.1	5442.6
12.5°	5383.3	5376.7	5350.3	5304.2	5291.0
15°	5238.3	5238.3	5185.6	5132.9	5113.1
17.5°	5080.2	5073.6	5007.7	4955.0	4928.6
20°	4908.8	4895.7	4829.8	4744.1	4698.0
22.5°	4717.8	4717.8	4638.7	4526.7	4480.6
25°	4539.9	4513.5	4441.0	4282.9	4164.3
27.5°	4335.6	4296.1	4217.0	3993.0	3854.6
30°	4111.6	4091.8	3979.8	3689.9	3584.4
32.5°	3900.7	3867.8	3749.2	3446.1	3360.4
35°	3683.3	3656.9	3479.0	3215.5	3136.4
37.5°	3465.8	3432.9	3208.9	2998.0	2899.2
40°	3248.4	3208.9	2965.1	2774.0	2668.6
42.5°	3044.1	2991.4	2754.2	2550.0	2431.4
45°	2826.7	2767.4	2530.2	2319.3	2227.1
47.5°	2609.3	2556.6	2339.1	2121.7	2016.2
50°	2378.6	2332.5	2134.9	1917.4	1805.4
52.5°	2187.6	2115.1	1924.0	1706.6	1614.3
55°	1963.5	1904.2	1726.3	1522.1	1443.0
57.5°	1759.3	1700.0	1535.2	1344.2	1278.3
60°	1568.2	1482.5	1344.2	1179.4	1126.7
62.5°	1357.3	1291.5	1172.9	1034.5	1100.4
65°	1166.3	1100.4	994.9	1014.7	843.4
67.5°	955.4	922.5	830.2	738.0	711.6
70°	777.5	738.0	705.0	606.2	579.8
72.5°	619.4	579.8	533.7	481.0	461.2
75°	467.8	434.9	408.5	388.8	428.3
77.5°	322.9	309.7	289.9	270.2	263.6
80°	210.8	204.3	197.7	191.1	184.5
82.5°	125.2	125.2	125.2	125.2	125.2
85°	65.9	72.5	79.1	85.7	92.2
87.5°	39.5	39.5	46.1	52.7	59.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)