

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: P563074

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563074
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-35-UNV-81-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11188.0 lumens
Efficiency: N/A
Efficacy: 86.3 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

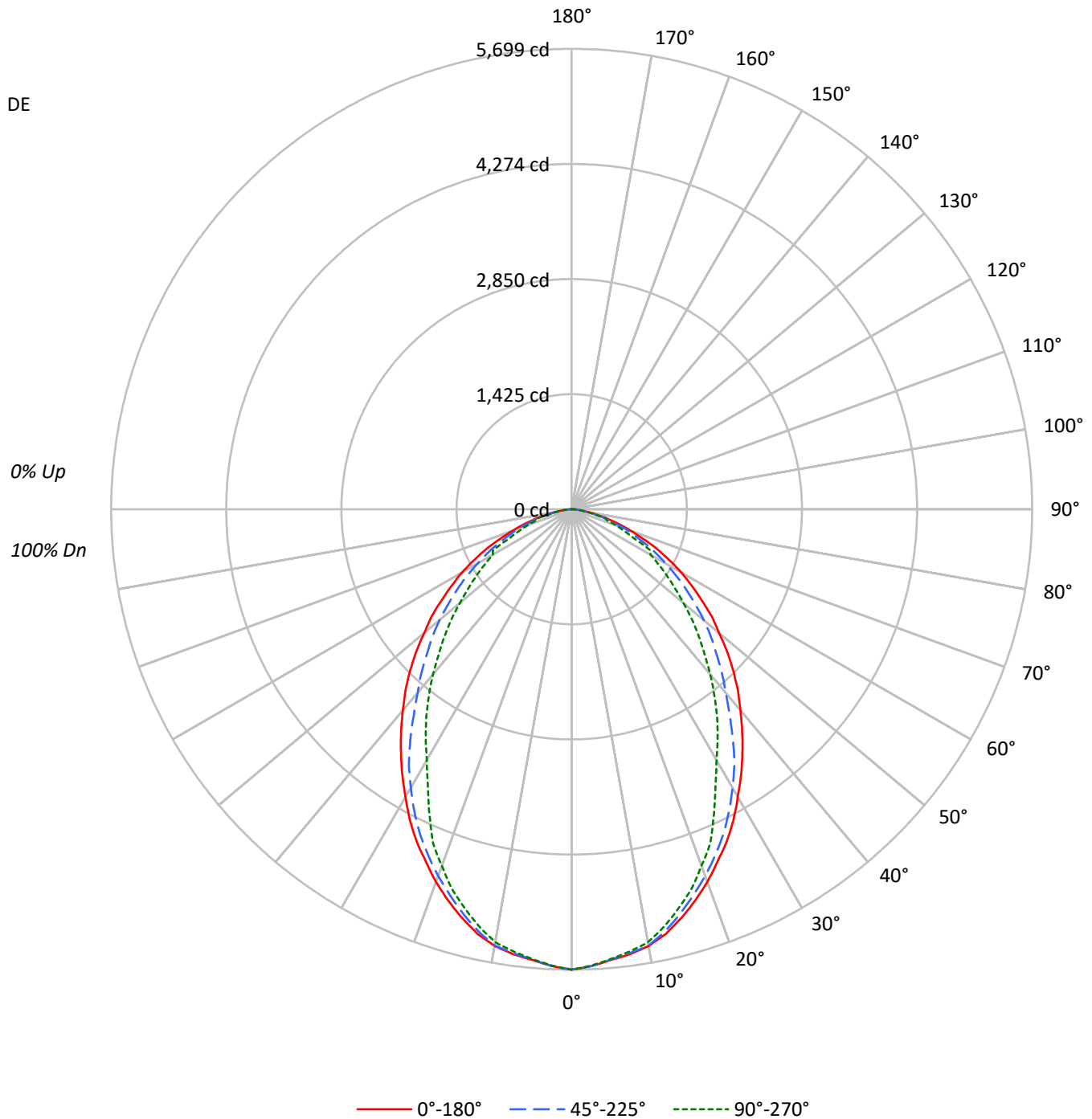
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7668	7668	7668
5°	7564	7555	7546
10°	7498	7489	7435
15°	7296	7223	7122
20°	7028	6915	6726
25°	6739	6592	6182
30°	6387	6183	5568
35°	6049	5714	5151
40°	5705	5207	4687
45°	5378	4814	4237
50°	4978	4468	3779
55°	4606	4049	3385
60°	4220	3617	3032
65°	3713	3167	2685
70°	3058	2773	2281
75°	2432	2124	2226
80°	1633	1532	1430
85°	1017	1221	1423

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5378 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	530.5	4.7
10°-20°	1455.9	13.0
20°-30°	2015.6	18.0
30°-40°	2149.2	19.2
40°-50°	1960.7	17.5
50°-60°	1536.1	13.7
60°-70°	1001.1	8.9
70°-80°	443.5	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°	4002.0	35.8
0°-40°	6151.3	55.0
0°-60°	9648.1	86.2
0°-90°	11188.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11188.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5699	5699	5699	5699	5699	
5°	5600	5594	5594	5587	5587	532
15°	5238	5238	5185	5132	5113	1472
25°	4539	4513	4441	4282	4164	2084
35°	3683	3657	3479	3215	3136	2303
45°	2826	2767	2530	2319	2227	2177
55°	1963	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°	5699.0	5699.0	5699.0	5699.0	5699.0
2.5°	5659.5	5659.5	5659.5	5652.9	5652.9
5°	5600.2	5593.6	5593.6	5587.0	5587.0
7.5°	5554.1	5547.5	5540.9	5534.3	5521.1
10°	5488.2	5488.2	5481.6	5448.7	5442.1
12.5°	5382.8	5376.2	5349.8	5303.7	5290.5
15°	5237.8	5237.8	5185.1	5132.4	5112.6
17.5°	5079.7	5073.1	5007.2	4954.5	4928.2
20°	4908.4	4895.2	4829.3	4743.7	4697.6
22.5°	4717.3	4717.3	4638.3	4526.3	4480.2
25°	4539.4	4513.1	4440.6	4282.5	4163.9
27.5°	4335.2	4295.7	4216.6	3992.6	3854.2
30°	4111.2	4091.4	3979.4	3689.5	3584.1
32.5°	3900.4	3867.4	3748.8	3445.8	3360.1
35°	3682.9	3656.6	3478.7	3215.2	3136.1
37.5°	3465.5	3432.6	3208.6	2997.7	2898.9
40°	3248.1	3208.6	2964.8	2773.7	2668.3
42.5°	3043.9	2991.2	2754.0	2549.7	2431.1
45°	2826.4	2767.2	2530.0	2319.1	2226.9
47.5°	2609.0	2556.3	2338.9	2121.5	2016.1
50°	2378.4	2332.3	2134.7	1917.2	1805.2
52.5°	2187.4	2114.9	1923.8	1706.4	1614.2
55°	1963.4	1904.1	1726.2	1521.9	1442.9
57.5°	1759.1	1699.8	1535.1	1344.0	1278.2
60°	1568.1	1482.4	1344.0	1179.3	1126.6
62.5°	1357.2	1291.3	1172.7	1034.4	1100.3
65°	1166.2	1100.3	994.9	1014.6	843.3
67.5°	955.3	922.4	830.1	737.9	711.6
70°	777.4	737.9	705.0	606.1	579.8
72.5°	619.3	579.8	533.7	481.0	461.2
75°	467.8	434.8	408.5	388.7	428.2
77.5°	322.8	309.7	289.9	270.1	263.5
80°	210.8	204.2	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	85.6	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)