

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: P562595

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-93-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562595
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-LD4-2HI-40-UNV-93-85-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9496.0 lumens
Efficiency: N/A
Efficacy: 109.9 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

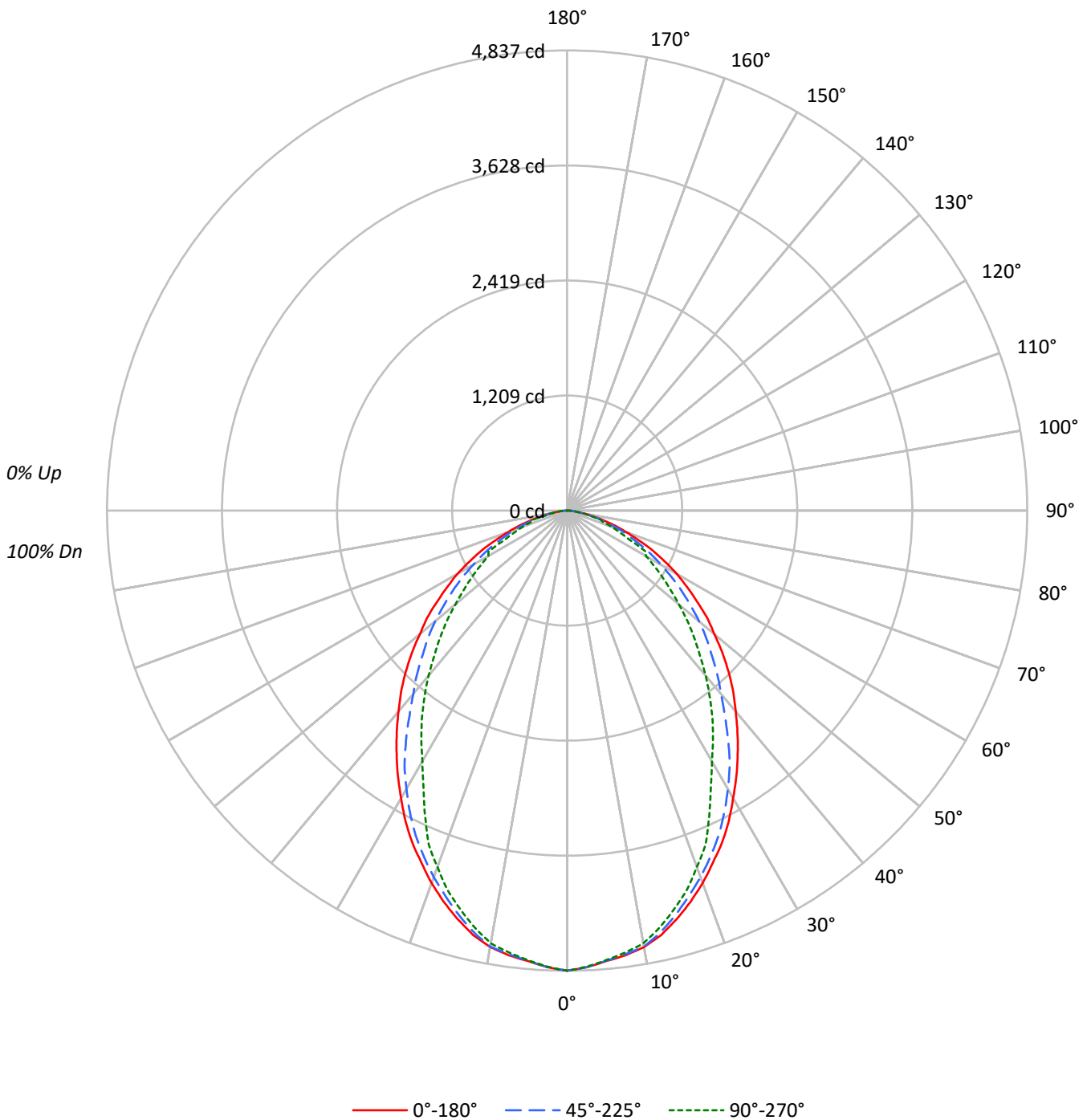
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6508	6508	6508
5°	6420	6412	6405
10°	6364	6357	6311
15°	6193	6130	6045
20°	5965	5869	5709
25°	5720	5596	5247
30°	5421	5248	4726
35°	5135	4850	4372
40°	4842	4420	3978
45°	4565	4086	3596
50°	4226	3792	3207
55°	3909	3437	2873
60°	3581	3070	2573
65°	3151	2688	2279
70°	2596	2354	1936
75°	2064	1802	1890
80°	1386	1300	1213
85°	863	1036	1209

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4565 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	450.3	4.7
10°-20°	1235.7	13.0
20°-30°	1710.8	18.0
30°-40°	1824.2	19.2
40°-50°	1664.2	17.5
50°-60°	1303.8	13.7
60°-70°	849.7	8.9
70°-80°	376.5	4.0
80°-90°	80.8	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°	3396.8	35.8
0°-40°	5221.0	55.0
0°-60°	8189.0	86.2
0°-90°	9496.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9496.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4837	4837	4837	4837	4837	
5°	4753	4748	4748	4742	4742	451
15°	4446	4446	4401	4356	4339	1250
25°	3853	3831	3769	3635	3534	1769
35°	3126	3104	2953	2729	2662	1954
45°	2399	2349	2147	1968	1890	1848
55°	1666	1616	1465	1292	1225	1495
65°	990	934	844	861	716	975
75°	397	369	347	330	364	426
85°	56	62	67	73	78	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4837.1	4837.1	4837.1	4837.1	4837.1
2.5°	4803.6	4803.6	4803.6	4798.0	4798.0
5°	4753.3	4747.7	4747.7	4742.1	4742.1
7.5°	4714.1	4708.5	4702.9	4697.3	4686.1
10°	4658.2	4658.2	4652.6	4624.6	4619.0
12.5°	4568.7	4563.1	4540.8	4501.6	4490.4
15°	4445.7	4445.7	4401.0	4356.2	4339.4
17.5°	4311.5	4305.9	4250.0	4205.2	4182.9
20°	4166.1	4154.9	4099.0	4026.3	3987.1
22.5°	4003.9	4003.9	3936.8	3841.7	3802.6
25°	3852.9	3830.6	3769.1	3634.8	3534.2
27.5°	3679.6	3646.0	3578.9	3388.8	3271.4
30°	3489.4	3472.7	3377.6	3131.6	3042.1
32.5°	3310.5	3282.5	3181.9	2924.6	2852.0
35°	3126.0	3103.6	2952.6	2728.9	2661.8
37.5°	2941.4	2913.5	2723.3	2544.4	2460.5
40°	2756.9	2723.3	2516.4	2354.3	2264.8
42.5°	2583.5	2538.8	2337.5	2164.1	2063.5
45°	2399.0	2348.7	2147.4	1968.4	1890.1
47.5°	2214.5	2169.7	1985.2	1800.6	1711.2
50°	2018.7	1979.6	1811.8	1627.3	1532.2
52.5°	1856.6	1795.1	1632.9	1448.3	1370.1
55°	1666.4	1616.1	1465.1	1291.8	1224.7
57.5°	1493.1	1442.8	1303.0	1140.8	1084.9
60°	1330.9	1258.2	1140.8	1001.0	956.2
62.5°	1152.0	1096.0	995.4	878.0	933.9
65°	989.8	933.9	844.4	861.2	715.8
67.5°	810.8	782.9	704.6	626.3	603.9
70°	659.9	626.3	598.4	514.5	492.1
72.5°	525.7	492.1	453.0	408.2	391.4
75°	397.0	369.1	346.7	329.9	363.5
77.5°	274.0	262.8	246.1	229.3	223.7
80°	178.9	173.4	167.8	162.2	156.6
82.5°	106.2	106.2	106.2	106.2	106.2
85°	55.9	61.5	67.1	72.7	78.3
87.5°	33.6	33.6	39.1	44.7	50.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)