

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: P562541

Luminaire Tested: FSR-24-4-LD4-2HI-35-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562541
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-35-UNV-93-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9508.0 lumens
Efficiency: N/A
Efficacy: 110.0 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

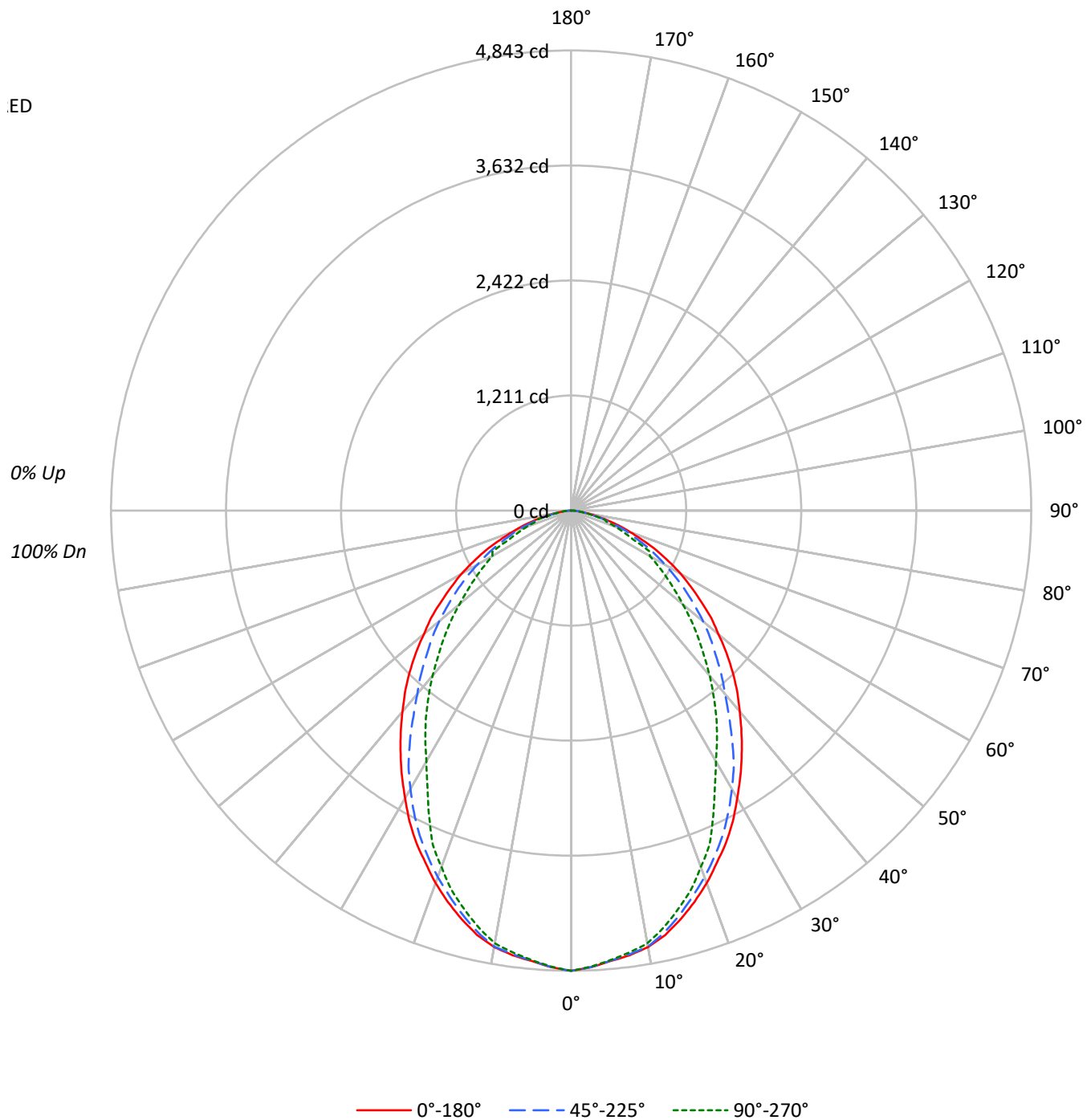
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6516	6516	6516
5°	6428	6420	6413
10°	6372	6365	6319
15°	6200	6138	6052
20°	5973	5877	5716
25°	5727	5603	5253
30°	5428	5254	4732
35°	5141	4856	4378
40°	4848	4425	3983
45°	4571	4091	3601
50°	4231	3797	3211
55°	3914	3441	2876
60°	3586	3074	2577
65°	3155	2692	2282
70°	2599	2357	1938
75°	2066	1804	1892
80°	1389	1302	1215
85°	865	1037	1210

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4571 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	450.8	4.7
10°-20°	1237.3	13.0
20°-30°	1713.0	18.0
30°-40°	1826.5	19.2
40°-50°	1666.3	17.5
50°-60°	1305.4	13.7
60°-70°	850.8	8.9
70°-80°	376.9	4.0
80°-90°	80.9	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°	3401.1	35.8
0°-40°	5227.6	55.0
0°-60°	8199.3	86.2
0°-90°	9508.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9508.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4843	4843	4843	4843	4843	
5°	4759	4754	4754	4748	4748	452
15°	4451	4451	4406	4362	4345	1251
25°	3858	3835	3774	3639	3539	1771
35°	3130	3108	2956	2732	2665	1957
45°	2402	2352	2150	1971	1892	1850
55°	1668	1618	1467	1293	1226	1497
65°	991	935	846	862	717	977
75°	398	370	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°	4843.2	4843.2	4843.2	4843.2	4843.2
2.5°	4809.7	4809.7	4809.7	4804.1	4804.1
5°	4759.3	4753.7	4753.7	4748.1	4748.1
7.5°	4720.1	4714.5	4708.9	4703.3	4692.1
10°	4664.1	4664.1	4658.5	4630.5	4624.9
12.5°	4574.5	4568.9	4546.5	4507.3	4496.1
15°	4451.3	4451.3	4406.5	4361.7	4344.9
17.5°	4316.9	4311.3	4255.3	4210.5	4188.1
20°	4171.4	4160.2	4104.2	4031.4	3992.2
22.5°	4009.0	4009.0	3941.8	3846.6	3807.4
25°	3857.8	3835.4	3773.8	3639.4	3538.7
27.5°	3684.2	3650.6	3583.4	3393.1	3275.5
30°	3493.9	3477.1	3381.9	3135.5	3045.9
32.5°	3314.7	3286.7	3185.9	2928.3	2855.6
35°	3129.9	3107.5	2956.3	2732.4	2665.2
37.5°	2945.1	2917.1	2726.8	2547.6	2463.6
40°	2760.4	2726.8	2519.6	2357.2	2267.6
42.5°	2586.8	2542.0	2340.4	2166.9	2066.1
45°	2402.0	2351.6	2150.1	1970.9	1892.5
47.5°	2217.3	2172.5	1987.7	1802.9	1713.3
50°	2021.3	1982.1	1814.1	1629.3	1534.2
52.5°	1858.9	1797.3	1634.9	1450.2	1371.8
55°	1668.5	1618.1	1467.0	1293.4	1226.2
57.5°	1495.0	1444.6	1304.6	1142.2	1086.2
60°	1332.6	1259.8	1142.2	1002.2	957.5
62.5°	1153.4	1097.4	996.6	879.1	935.1
65°	991.0	935.1	845.5	862.3	716.7
67.5°	811.9	783.9	705.5	627.1	604.7
70°	660.7	627.1	599.1	515.1	492.7
72.5°	526.3	492.7	453.5	408.7	391.9
75°	397.5	369.5	347.1	330.3	363.9
77.5°	274.4	263.2	246.4	229.6	224.0
80°	179.2	173.6	168.0	162.4	156.8
82.5°	106.4	106.4	106.4	106.4	106.4
85°	56.0	61.6	67.2	72.8	78.4
87.5°	33.6	33.6	39.2	44.8	50.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)