

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: P562602

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562602
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-93-94-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8159.0 lumens
Efficiency: N/A
Efficacy: 94.4 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

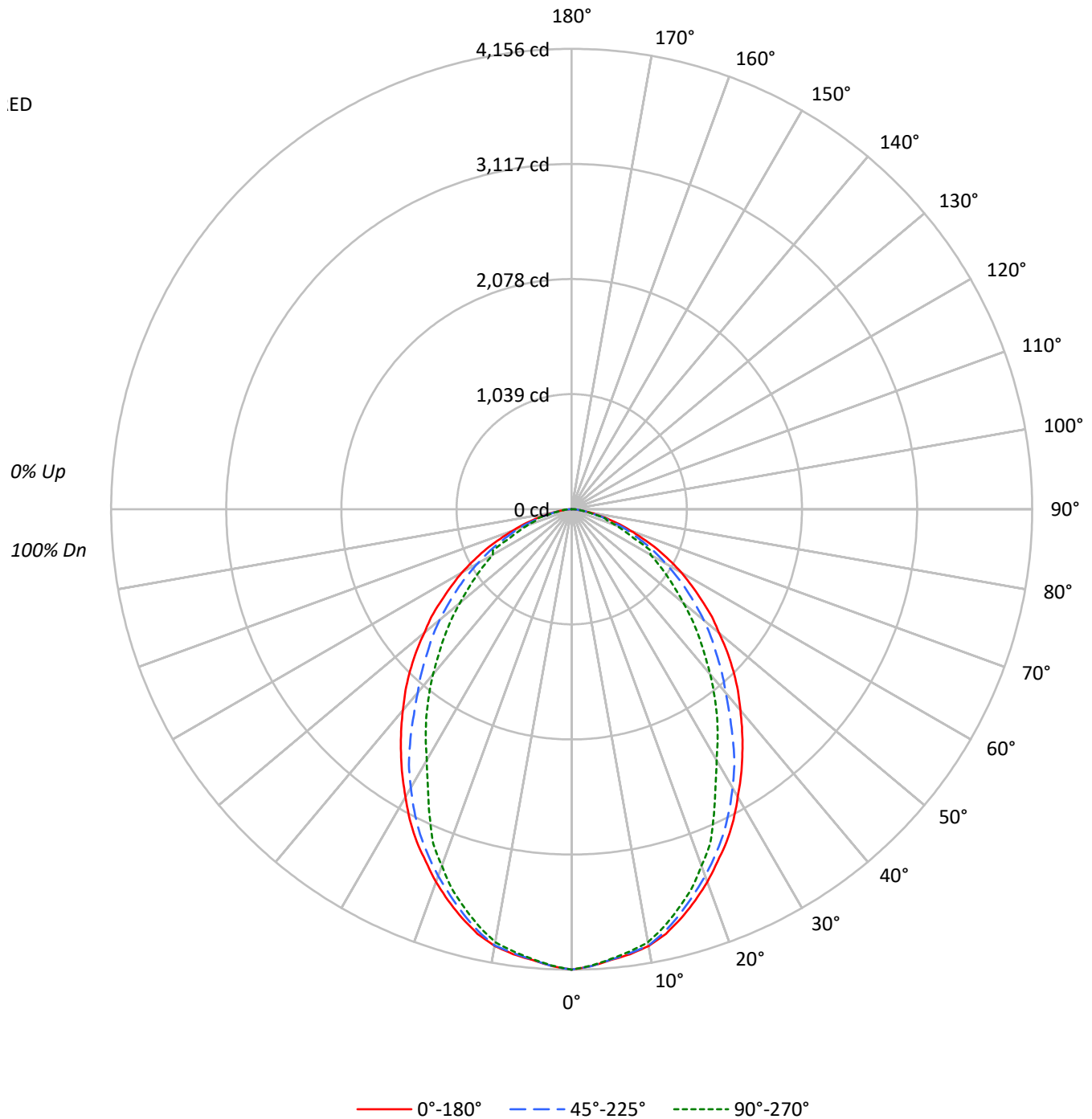
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5592	5592	5592
5°	5516	5509	5503
10°	5468	5462	5422
15°	5321	5267	5194
20°	5125	5043	4905
25°	4915	4808	4508
30°	4658	4509	4061
35°	4412	4167	3756
40°	4160	3798	3418
45°	3922	3511	3090
50°	3631	3258	2756
55°	3359	2953	2468
60°	3077	2638	2211
65°	2707	2310	1958
70°	2231	2022	1663
75°	1773	1549	1624
80°	1192	1117	1042
85°	741	891	1039

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3922 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	386.9	4.7
10°-20°	1061.7	13.0
20°-30°	1469.9	18.0
30°-40°	1567.4	19.2
40°-50°	1429.9	17.5
50°-60°	1120.2	13.7
60°-70°	730.1	8.9
70°-80°	323.4	4.0
80°-90°	69.4	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°	2918.5	35.8
0°-40°	4485.9	55.0
0°-60°	7036.0	86.2
0°-90°	8159.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8159.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4156	4156	4156	4156	4156	
5°	4084	4079	4079	4074	4074	388
15°	3820	3820	3781	3743	3728	1074
25°	3310	3291	3238	3123	3037	1520
35°	2686	2667	2537	2345	2287	1679
45°	2061	2018	1845	1691	1624	1588
55°	1432	1389	1259	1110	1052	1284
65°	850	802	726	740	615	838
75°	341	317	298	284	312	366
85°	48	53	58	62	67	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4156.1	4156.1	4156.1	4156.1	4156.1
2.5°	4127.3	4127.3	4127.3	4122.5	4122.5
5°	4084.0	4079.2	4079.2	4074.4	4074.4
7.5°	4050.4	4045.6	4040.8	4036.0	4026.4
10°	4002.3	4002.3	3997.5	3973.5	3968.7
12.5°	3925.5	3920.7	3901.4	3867.8	3858.2
15°	3819.8	3819.8	3781.3	3742.9	3728.5
17.5°	3704.4	3699.6	3651.6	3613.2	3593.9
20°	3579.5	3569.9	3521.9	3459.4	3425.8
22.5°	3440.2	3440.2	3382.5	3300.8	3267.2
25°	3310.5	3291.2	3238.4	3123.1	3036.6
27.5°	3161.5	3132.7	3075.0	2911.7	2810.8
30°	2998.1	2983.7	2902.1	2690.6	2613.8
32.5°	2844.4	2820.4	2733.9	2512.9	2450.4
35°	2685.8	2666.6	2536.9	2344.7	2287.0
37.5°	2527.3	2503.3	2339.9	2186.1	2114.1
40°	2368.7	2339.9	2162.1	2022.8	1945.9
42.5°	2219.8	2181.3	2008.4	1859.4	1772.9
45°	2061.2	2018.0	1845.0	1691.3	1624.0
47.5°	1902.7	1864.2	1705.7	1547.1	1470.2
50°	1734.5	1700.9	1556.7	1398.2	1316.5
52.5°	1595.2	1542.3	1403.0	1244.4	1177.2
55°	1431.8	1388.6	1258.8	1109.9	1052.2
57.5°	1282.9	1239.6	1119.5	980.2	932.1
60°	1143.5	1081.1	980.2	860.0	821.6
62.5°	989.8	941.7	855.2	754.3	802.4
65°	850.4	802.4	725.5	739.9	615.0
67.5°	696.7	672.7	605.4	538.1	518.9
70°	567.0	538.1	514.1	442.0	422.8
72.5°	451.6	422.8	389.2	350.7	336.3
75°	341.1	317.1	297.9	283.5	312.3
77.5°	235.4	225.8	211.4	197.0	192.2
80°	153.8	148.9	144.1	139.3	134.5
82.5°	91.3	91.3	91.3	91.3	91.3
85°	48.0	52.9	57.7	62.5	67.3
87.5°	28.8	28.8	33.6	38.4	43.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)