

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: P562649

Luminaire Tested: FSR-24-4-LD4-2HI-50-UNV-82-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562649
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-50-UNV-82-88-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7721.0 lumens
Efficiency: N/A
Efficacy: 89.4 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

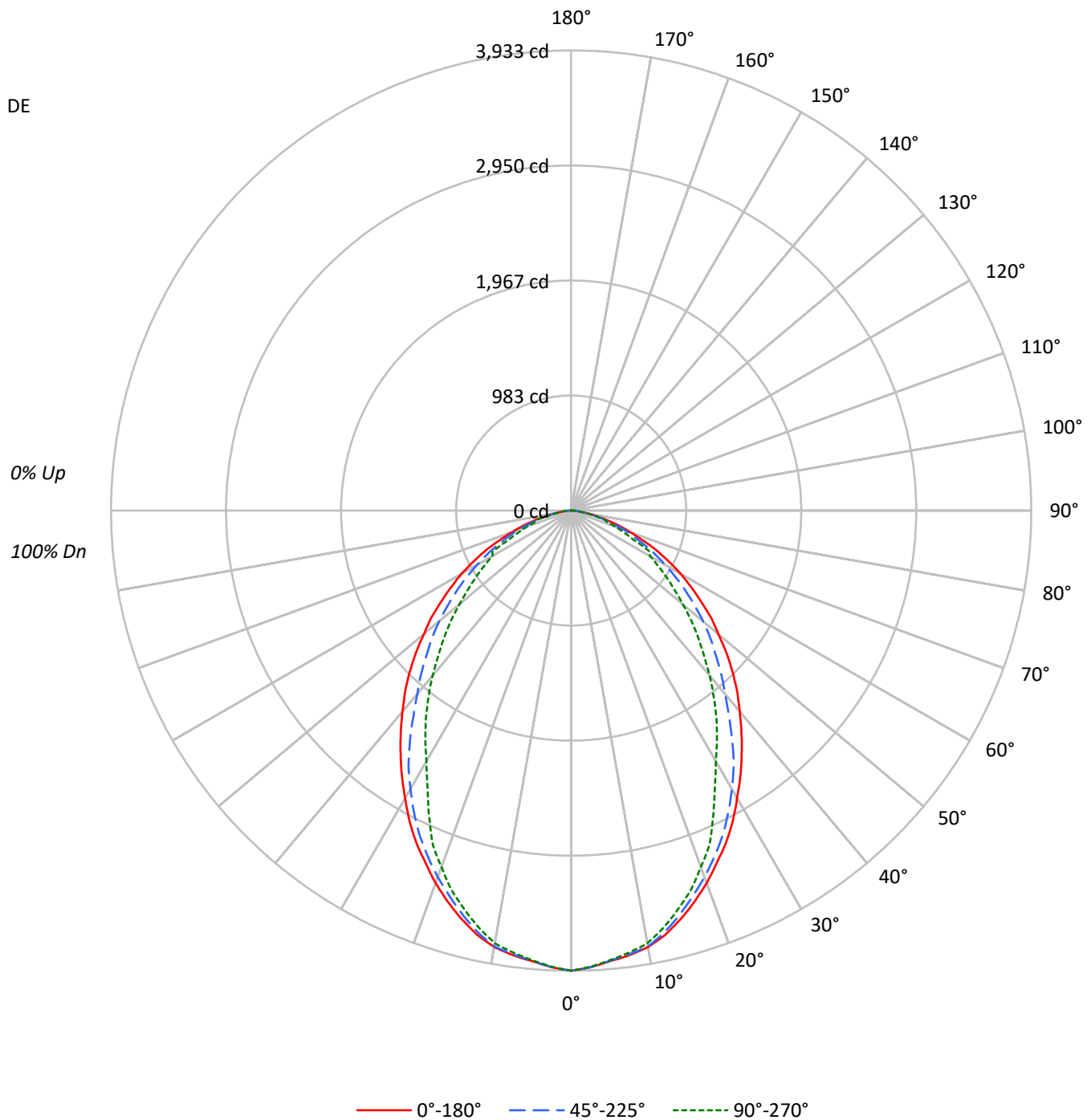
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5292	5292	5292
5°	5220	5214	5208
10°	5175	5168	5131
15°	5035	4984	4915
20°	4850	4772	4642
25°	4651	4550	4266
30°	4408	4267	3843
35°	4175	3943	3555
40°	3937	3594	3234
45°	3712	3322	2924
50°	3436	3084	2608
55°	3178	2795	2336
60°	2912	2496	2092
65°	2562	2186	1853
70°	2111	1914	1574
75°	1678	1465	1536
80°	1127	1057	986
85°	702	843	983

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3712 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	366.1	4.7
10°-20°	1004.8	13.0
20°-30°	1391.0	18.0
30°-40°	1483.2	19.2
40°-50°	1353.1	17.5
50°-60°	1060.1	13.7
60°-70°	690.9	8.9
70°-80°	306.1	4.0
80°-90°	65.7	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°	2761.9	35.8
0°-40°	4245.1	55.0
0°-60°	6658.3	86.2
0°-90°	7721.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7721.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3933	3933	3933	3933	3933	
5°	3865	3860	3860	3856	3856	367
15°	3615	3615	3578	3542	3528	1016
25°	3133	3115	3064	2955	2874	1438
35°	2542	2524	2401	2219	2164	1589
45°	1951	1910	1746	1600	1537	1503
55°	1355	1314	1191	1050	996	1215
65°	805	759	687	700	582	793
75°	323	300	282	268	296	346
85°	46	50	55	59	64	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3933.0	3933.0	3933.0	3933.0	3933.0
2.5°	3905.7	3905.7	3905.7	3901.1	3901.1
5°	3864.8	3860.2	3860.2	3855.7	3855.7
7.5°	3832.9	3828.4	3823.9	3819.3	3810.2
10°	3787.5	3787.5	3782.9	3760.2	3755.6
12.5°	3714.7	3710.2	3692.0	3660.2	3651.1
15°	3614.7	3614.7	3578.3	3542.0	3528.3
17.5°	3505.6	3501.0	3455.6	3419.2	3401.0
20°	3387.4	3378.3	3332.8	3273.7	3241.9
22.5°	3255.5	3255.5	3200.9	3123.6	3091.8
25°	3132.7	3114.6	3064.5	2955.4	2873.6
27.5°	2991.8	2964.5	2909.9	2755.4	2659.9
30°	2837.2	2823.6	2746.3	2546.2	2473.5
32.5°	2691.7	2669.0	2587.1	2378.0	2318.9
35°	2541.7	2523.5	2400.7	2218.8	2164.3
37.5°	2391.6	2368.9	2214.3	2068.8	2000.6
40°	2241.6	2214.3	2046.1	1914.2	1841.5
42.5°	2100.6	2064.2	1900.6	1759.6	1677.8
45°	1950.6	1909.7	1746.0	1600.5	1536.8
47.5°	1800.5	1764.2	1614.1	1464.1	1391.3
50°	1641.4	1609.6	1473.2	1323.1	1245.8
52.5°	1509.5	1459.5	1327.7	1177.6	1114.0
55°	1354.9	1314.0	1191.3	1050.3	995.7
57.5°	1214.0	1173.1	1059.4	927.5	882.1
60°	1082.1	1023.0	927.5	813.9	777.5
62.5°	936.6	891.2	809.3	713.8	759.3
65°	804.8	759.3	686.6	700.2	582.0
67.5°	659.3	636.6	572.9	509.2	491.1
70°	536.5	509.2	486.5	418.3	400.1
72.5°	427.4	400.1	368.3	331.9	318.3
75°	322.8	300.1	281.9	268.3	295.5
77.5°	222.8	213.7	200.1	186.4	181.9
80°	145.5	141.0	136.4	131.9	127.3
82.5°	86.4	86.4	86.4	86.4	86.4
85°	45.5	50.0	54.6	59.1	63.7
87.5°	27.3	27.3	31.8	36.4	40.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)