

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: P561398

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-80-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561398
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-12-4-LD4-2HI-40-UNV-80-87-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6483.0 lumens
Efficiency: N/A
Efficacy: 75.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

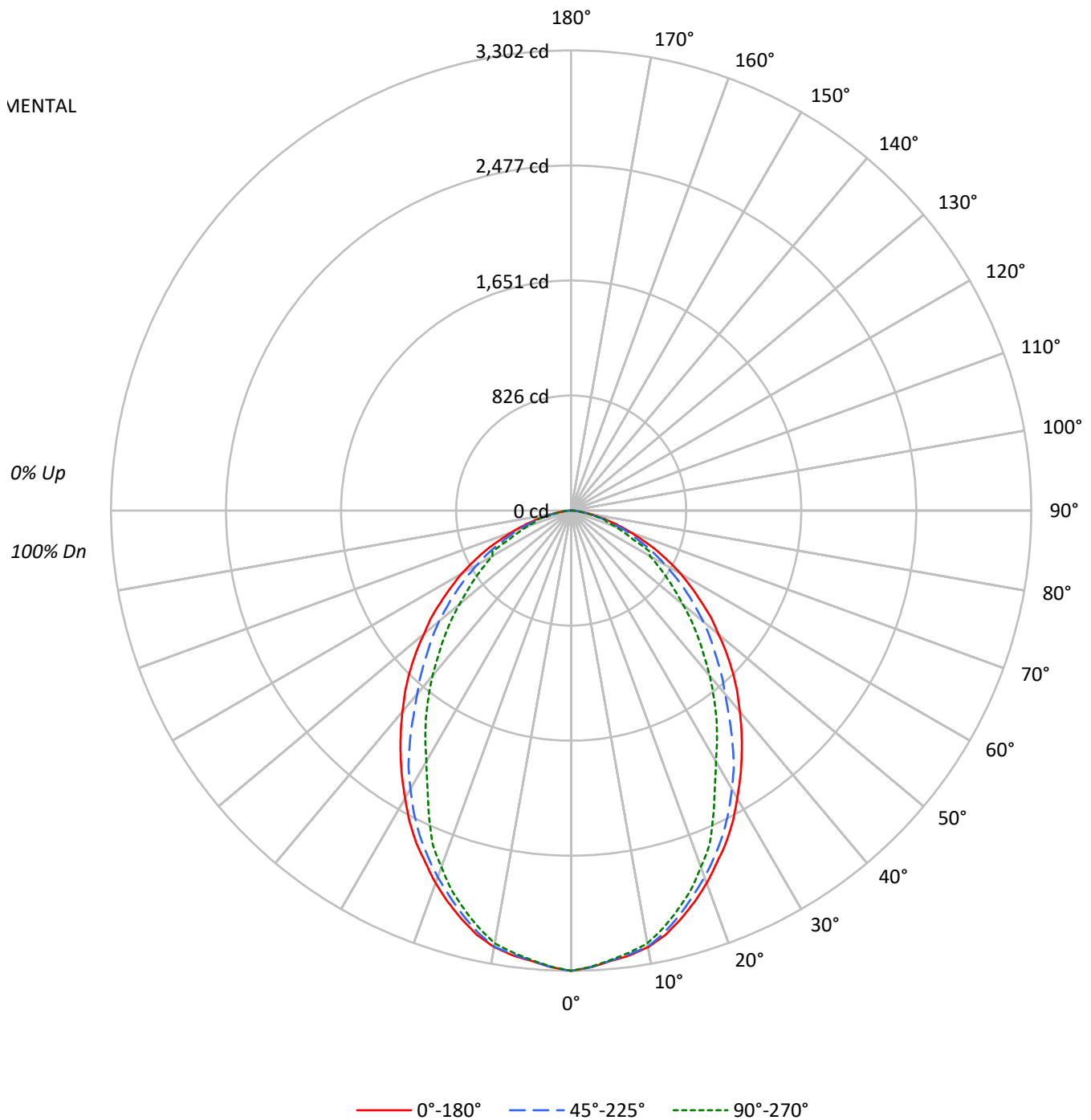
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8887	8887	8887
5°	8766	8756	8745
10°	8690	8679	8617
15°	8456	8371	8254
20°	8145	8014	7795
25°	7810	7640	7164
30°	7402	7165	6453
35°	7011	6622	5970
40°	6612	6035	5432
45°	6233	5579	4911
50°	5770	5179	4379
55°	5338	4693	3923
60°	4890	4191	3513
65°	4302	3671	3112
70°	3544	3214	2644
75°	2819	2461	2581
80°	1894	1774	1657
85°	1179	1414	1649

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6233 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	307.4	4.7
10°-20°	843.6	13.0
20°-30°	1168.0	18.0
30°-40°	1245.4	19.2
40°-50°	1136.2	17.5
50°-60°	890.1	13.7
60°-70°	580.1	8.9
70°-80°	257.0	4.0
80°-90°	55.2	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°	2319.0	35.8
0°-40°	3564.4	55.0
0°-60°	5590.7	86.2
0°-90°	6483.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6483.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3302	3302	3302	3302	3302	
5°	3245	3241	3241	3238	3238	308
15°	3035	3035	3005	2974	2963	853
25°	2630	2615	2573	2482	2413	1208
35°	2134	2119	2016	1863	1817	1334
45°	1638	1604	1466	1344	1290	1262
55°	1138	1103	1000	882	836	1020
65°	676	638	576	588	489	666
75°	271	252	237	225	248	291
85°	38	42	46	50	53	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3302.4	3302.4	3302.4	3302.4	3302.4
2.5°	3279.4	3279.4	3279.4	3275.6	3275.6
5°	3245.1	3241.3	3241.3	3237.5	3237.5
7.5°	3218.4	3214.5	3210.7	3206.9	3199.3
10°	3180.2	3180.2	3176.4	3157.3	3153.5
12.5°	3119.1	3115.3	3100.0	3073.3	3065.7
15°	3035.1	3035.1	3004.6	2974.0	2962.6
17.5°	2943.5	2939.7	2901.5	2870.9	2855.7
20°	2844.2	2836.6	2798.4	2748.8	2722.1
22.5°	2733.5	2733.5	2687.7	2622.8	2596.1
25°	2630.4	2615.2	2573.2	2481.5	2412.8
27.5°	2512.1	2489.2	2443.4	2313.6	2233.4
30°	2382.3	2370.8	2305.9	2137.9	2076.9
32.5°	2260.1	2241.0	2172.3	1996.7	1947.1
35°	2134.1	2118.9	2015.8	1863.1	1817.2
37.5°	2008.1	1989.0	1859.2	1737.1	1679.8
40°	1882.2	1859.2	1718.0	1607.3	1546.2
42.5°	1763.8	1733.3	1595.8	1477.5	1408.7
45°	1637.8	1603.5	1466.0	1343.8	1290.4
47.5°	1511.8	1481.3	1355.3	1229.3	1168.2
50°	1378.2	1351.5	1237.0	1111.0	1046.1
52.5°	1267.5	1225.5	1114.8	988.8	935.3
55°	1137.7	1103.3	1000.3	881.9	836.1
57.5°	1019.3	985.0	889.5	778.8	740.6
60°	908.6	859.0	778.8	683.4	652.8
62.5°	786.5	748.3	679.6	599.4	637.6
65°	675.7	637.6	576.5	587.9	488.7
67.5°	553.6	534.5	481.0	427.6	412.3
70°	450.5	427.6	408.5	351.2	336.0
72.5°	358.9	336.0	309.2	278.7	267.2
75°	271.1	252.0	236.7	225.2	248.2
77.5°	187.1	179.4	168.0	156.5	152.7
80°	122.2	118.4	114.5	110.7	106.9
82.5°	72.5	72.5	72.5	72.5	72.5
85°	38.2	42.0	45.8	49.6	53.4
87.5°	22.9	22.9	26.7	30.5	34.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)