

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: P561400

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-80-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561400
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-80-88-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

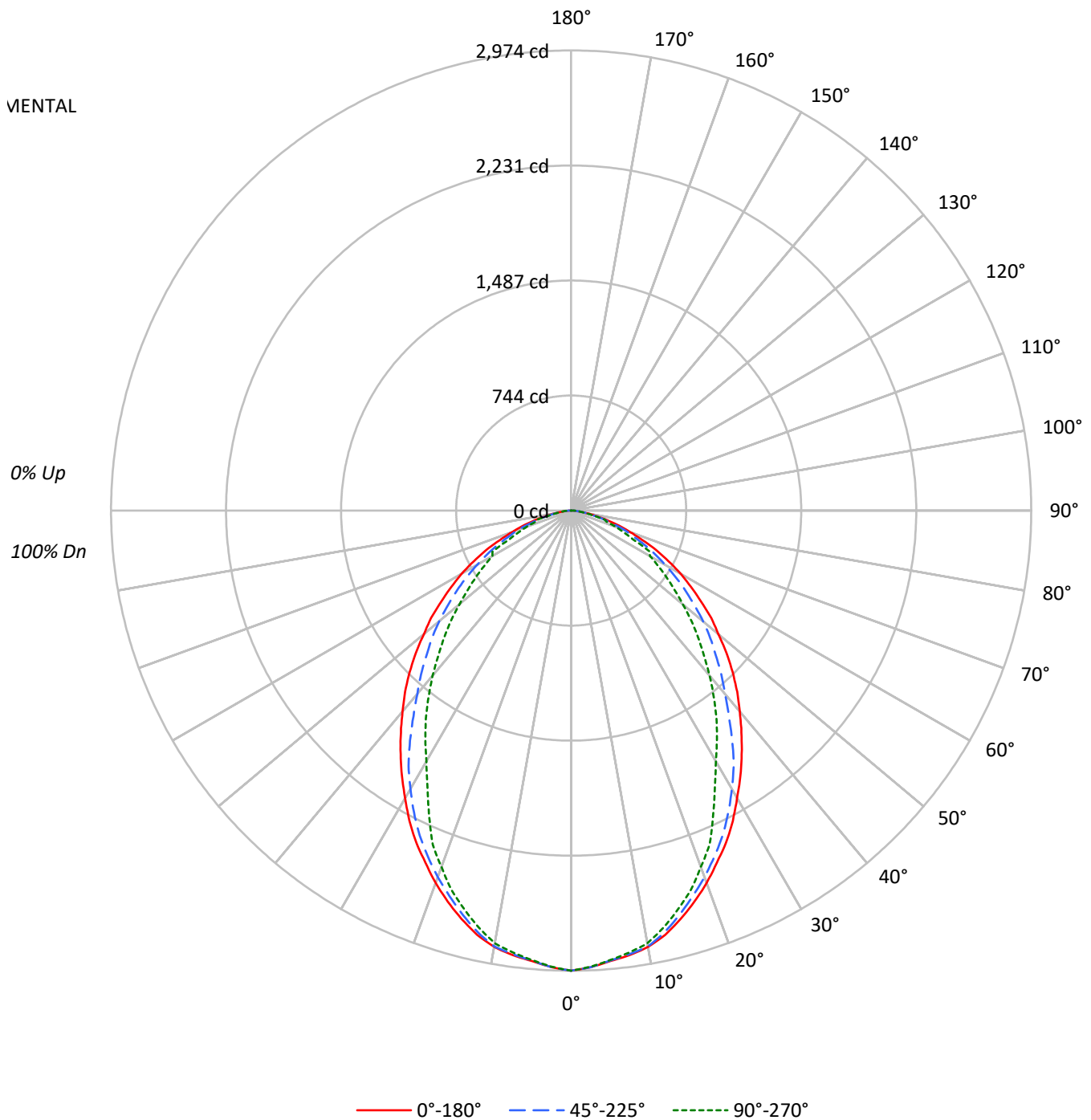
Lumens per Lamp: N/A
Luminaire Lumens: 5838.0 lumens
Efficiency: N/A
Efficacy: 67.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	8002	8002	8002
5°	7894	7884	7875
10°	7825	7816	7759
15°	7614	7538	7432
20°	7334	7216	7019
25°	7033	6880	6451
30°	6666	6452	5811
35°	6313	5963	5376
40°	5954	5435	4891
45°	5613	5024	4422
50°	5196	4663	3944
55°	4807	4226	3532
60°	4404	3774	3164
65°	3875	3305	2802
70°	3192	2895	2380
75°	2538	2217	2324
80°	1705	1598	1492
85°	1062	1275	1485

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5613 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.8	4.7
10°-20°	759.7	13.0
20°-30°	1051.8	18.0
30°-40°	1121.5	19.2
40°-50°	1023.1	17.5
50°-60°	801.5	13.7
60°-70°	522.4	8.9
70°-80°	231.5	4.0
80°-90°	49.7	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°	2088.3	35.8
0°-40°	3209.8	55.0
0°-60°	5034.5	86.2
0°-90°	5838.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5838.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2974	2974	2974	2974	2974	
5°	2922	2919	2919	2915	2915	277
15°	2733	2733	2706	2678	2668	768
25°	2369	2355	2317	2235	2173	1087
35°	1922	1908	1815	1678	1636	1201
45°	1475	1444	1320	1210	1162	1136
55°	1024	994	901	794	753	919
65°	608	574	519	529	440	600
75°	244	227	213	203	224	262
85°	34	38	41	45	48	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2973.8	2973.8	2973.8	2973.8	2973.8
2.5°	2953.2	2953.2	2953.2	2949.7	2949.7
5°	2922.2	2918.8	2918.8	2915.4	2915.4
7.5°	2898.2	2894.7	2891.3	2887.9	2881.0
10°	2863.8	2863.8	2860.3	2843.2	2839.7
12.5°	2808.8	2805.3	2791.6	2767.5	2760.6
15°	2733.1	2733.1	2705.6	2678.1	2667.8
17.5°	2650.6	2647.2	2612.8	2585.3	2571.6
20°	2561.2	2554.4	2520.0	2475.3	2451.2
22.5°	2461.5	2461.5	2420.3	2361.8	2337.8
25°	2368.7	2355.0	2317.2	2234.6	2172.8
27.5°	2262.2	2241.5	2200.3	2083.4	2011.2
30°	2145.3	2134.9	2076.5	1925.2	1870.2
32.5°	2035.2	2018.1	1956.2	1798.0	1753.3
35°	1921.8	1908.0	1815.2	1677.7	1636.4
37.5°	1808.3	1791.2	1674.3	1564.3	1512.7
40°	1694.9	1674.3	1547.1	1447.4	1392.4
42.5°	1588.3	1560.8	1437.0	1330.5	1268.6
45°	1474.9	1443.9	1320.2	1210.1	1162.0
47.5°	1361.4	1333.9	1220.5	1107.0	1052.0
50°	1241.1	1217.0	1113.9	1000.4	942.0
52.5°	1141.4	1103.6	1003.9	890.4	842.3
55°	1024.5	993.6	900.7	794.2	752.9
57.5°	917.9	887.0	801.0	701.3	667.0
60°	818.2	773.5	701.3	615.4	587.9
62.5°	708.2	673.8	611.9	539.8	574.1
65°	608.5	574.1	519.1	529.4	440.1
67.5°	498.5	481.3	433.2	385.0	371.3
70°	405.7	385.0	367.9	316.3	302.5
72.5°	323.2	302.5	278.5	251.0	240.7
75°	244.1	226.9	213.2	202.8	223.5
77.5°	168.5	161.6	151.3	141.0	137.5
80°	110.0	106.6	103.1	99.7	96.3
82.5°	65.3	65.3	65.3	65.3	65.3
85°	34.4	37.8	41.3	44.7	48.1
87.5°	20.6	20.6	24.1	27.5	30.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)