

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: P561401

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561401
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
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

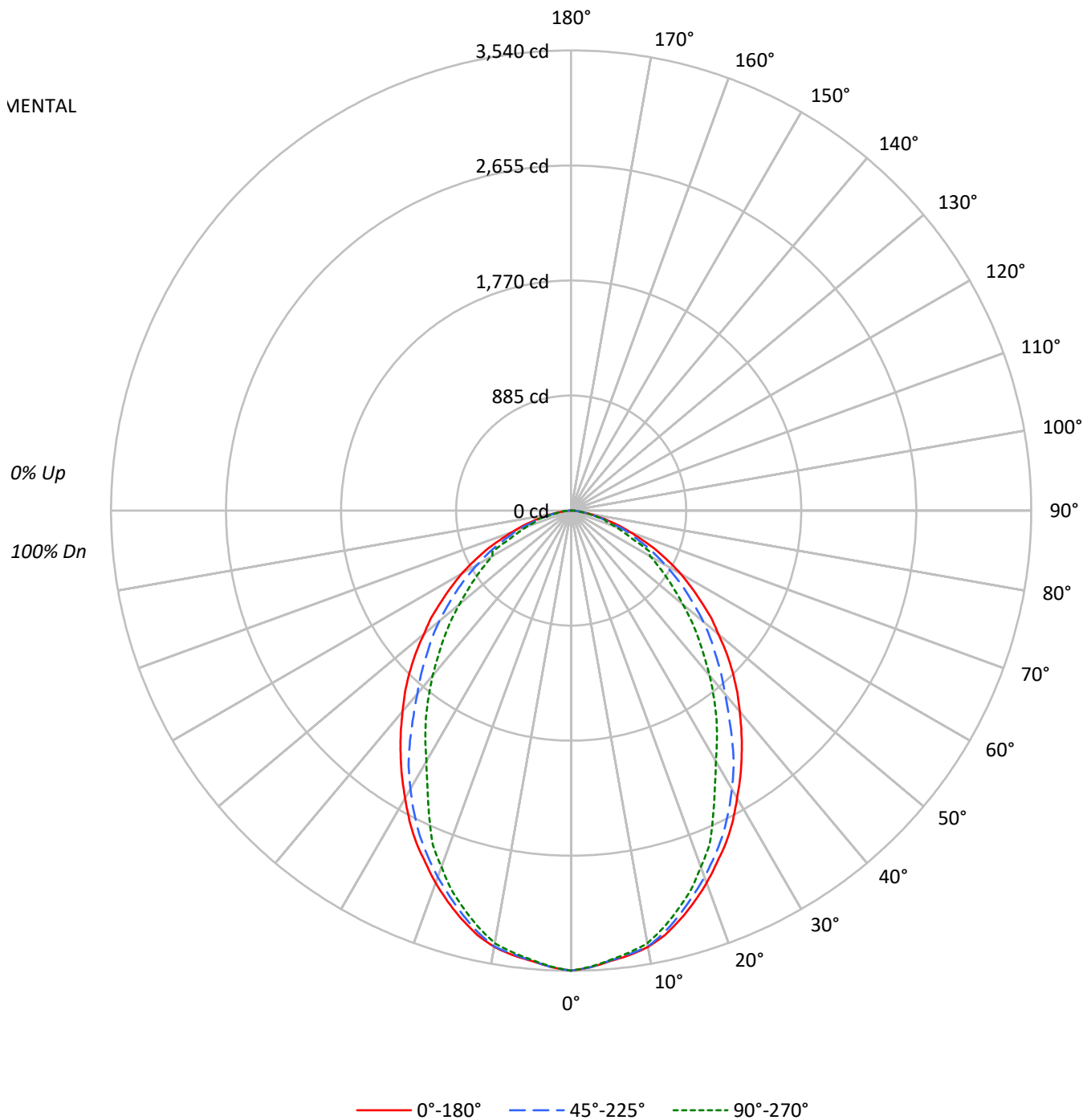
Lumens per Lamp: N/A
Luminaire Lumens: 6949.0 lumens
Efficiency: N/A
Efficacy: 80.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9525	9525	9525
5°	9396	9385	9374
10°	9315	9303	9236
15°	9063	8972	8847
20°	8731	8590	8355
25°	8372	8189	7679
30°	7934	7680	6917
35°	7515	7098	6399
40°	7087	6469	5822
45°	6681	5980	5264
50°	6185	5551	4694
55°	5721	5030	4205
60°	5241	4493	3766
65°	4612	3934	3335
70°	3799	3445	2833
75°	3020	2638	2766
80°	2029	1903	1776
85°	1263	1516	1769

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6681 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.5	4.7
10°-20°	904.3	13.0
20°-30°	1251.9	18.0
30°-40°	1334.9	19.2
40°-50°	1217.8	17.5
50°-60°	954.1	13.7
60°-70°	621.8	8.9
70°-80°	275.5	4.0
80°-90°	59.2	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°	2485.7	35.8
0°-40°	3820.6	55.0
0°-60°	5992.5	86.2
0°-90°	6949.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6949.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3540	3540	3540	3540	3540	
5°	3478	3474	3474	3470	3470	330
15°	3253	3253	3220	3188	3176	915
25°	2820	2803	2758	2660	2586	1294
35°	2288	2271	2161	1997	1948	1430
45°	1756	1719	1571	1440	1383	1352
55°	1220	1183	1072	945	896	1094
65°	724	683	618	630	524	714
75°	290	270	254	241	266	311
85°	41	45	49	53	57	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3539.7	3539.7	3539.7	3539.7	3539.7
2.5°	3515.2	3515.2	3515.2	3511.1	3511.1
5°	3478.3	3474.3	3474.3	3470.2	3470.2
7.5°	3449.7	3445.6	3441.5	3437.4	3429.2
10°	3408.8	3408.8	3404.7	3384.2	3380.1
12.5°	3343.3	3339.2	3322.8	3294.2	3286.0
15°	3253.3	3253.3	3220.5	3187.8	3175.5
17.5°	3155.1	3151.0	3110.0	3077.3	3060.9
20°	3048.7	3040.5	2999.6	2946.4	2917.7
22.5°	2930.0	2930.0	2880.9	2811.3	2782.7
25°	2819.5	2803.1	2758.1	2659.9	2586.3
27.5°	2692.6	2668.1	2619.0	2479.9	2393.9
30°	2553.5	2541.2	2471.7	2291.6	2226.1
32.5°	2422.6	2402.1	2328.4	2140.2	2087.0
35°	2287.5	2271.2	2160.7	1997.0	1947.9
37.5°	2152.5	2132.0	1992.9	1861.9	1800.6
40°	2017.4	1992.9	1841.5	1722.8	1657.3
42.5°	1890.6	1857.8	1710.5	1583.7	1510.0
45°	1755.5	1718.7	1571.4	1440.4	1383.2
47.5°	1620.5	1587.8	1452.7	1317.7	1252.2
50°	1477.3	1448.6	1325.9	1190.8	1121.3
52.5°	1358.6	1313.6	1194.9	1059.9	1002.6
55°	1219.5	1182.6	1072.1	945.3	896.2
57.5°	1092.6	1055.8	953.5	834.8	793.9
60°	973.9	920.7	834.8	732.5	699.8
62.5°	843.0	802.1	728.4	642.5	683.4
65°	724.3	683.4	617.9	630.2	523.8
67.5°	593.4	572.9	515.6	458.3	442.0
70°	482.9	458.3	437.9	376.5	360.1
72.5°	384.7	360.1	331.5	298.7	286.5
75°	290.5	270.1	253.7	241.4	266.0
77.5°	200.5	192.3	180.1	167.8	163.7
80°	130.9	126.9	122.8	118.7	114.6
82.5°	77.8	77.8	77.8	77.8	77.8
85°	40.9	45.0	49.1	53.2	57.3
87.5°	24.6	24.6	28.6	32.7	36.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)