

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: P590239

Luminaire Tested: FSR-24-2-LD4-2LO-35-UNV-81-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590239
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2LO-35-UNV-81-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

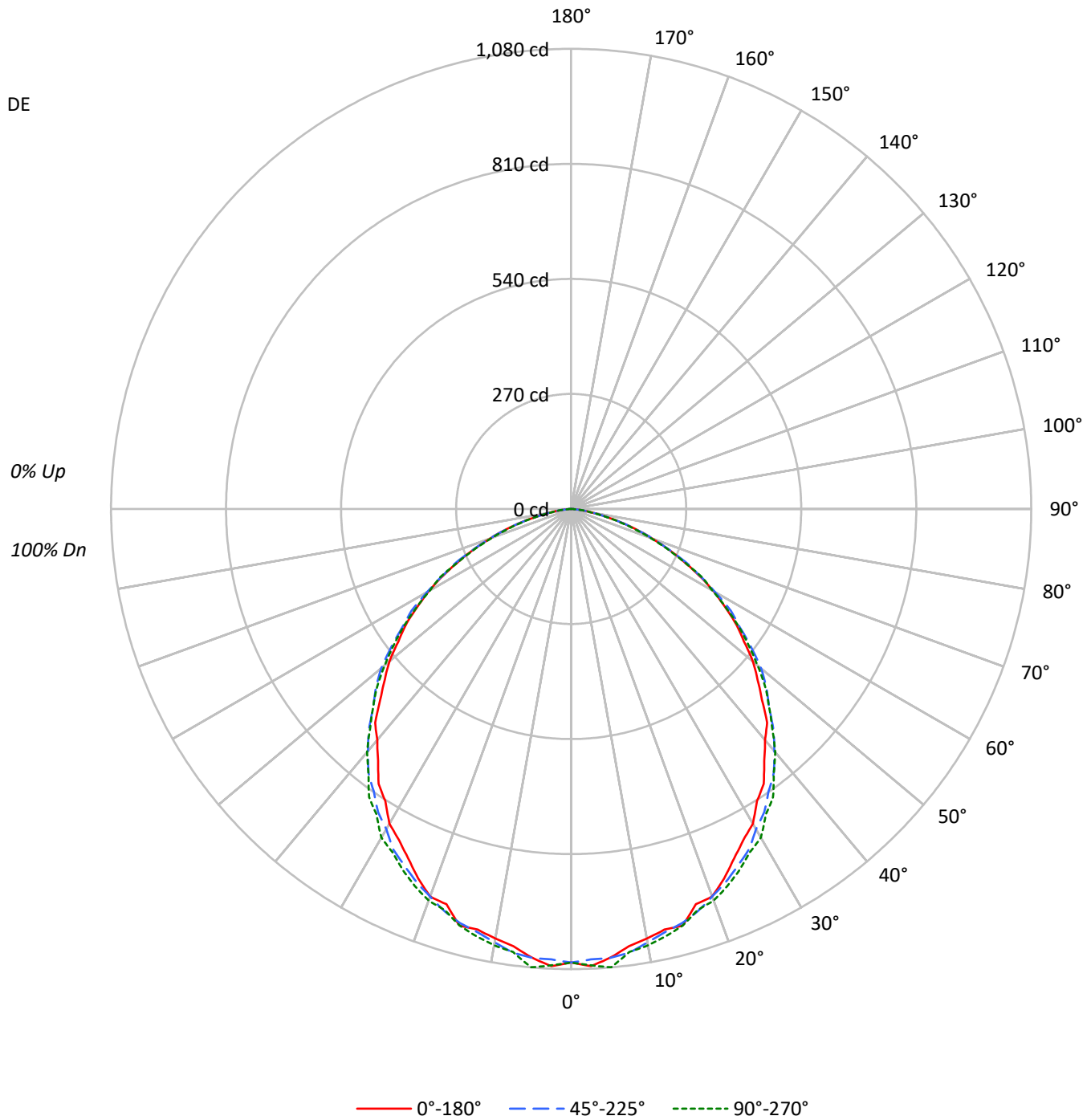
Lumens per Lamp: N/A
Luminaire Lumens: 2683.0 lumens
Efficiency: N/A
Efficacy: 114.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86									86																			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73									73																			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62									62																			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53									53																			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46									46																			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41									41																			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36									36																			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32									32																			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29									29																			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26									26																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2865	2865	2865
5°	2855	2856	2917
10°	2797	2822	2842
15°	2819	2804	2820
20°	2772	2772	2801
25°	2687	2745	2776
30°	2650	2696	2768
35°	2587	2655	2714
40°	2487	2607	2618
45°	2411	2497	2501
50°	2332	2437	2391
55°	2222	2266	2249
60°	2078	2098	2061
65°	1853	1900	1840
70°	1590	1595	1551
75°	1259	1256	1207
80°	843	820	789
85°	457	454	423

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2562 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.1	3.7
10°-20°	283.8	10.6
20°-30°	425.2	15.8
30°-40°	503.9	18.8
40°-50°	504.9	18.8
50°-60°	428.6	16.0
60°-70°	288.9	10.8
70°-80°	127.0	4.7
80°-90°	20.6	0.8
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°	809.1	30.2
0°-40°	1313.1	48.9
0°-60°	2246.5	83.7
0°-90°	2683.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2683.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1064	1064	1064	1064	1064	
5°	1057	1054	1057	1054	1080	100
15°	1012	1000	1006	1012	1012	282
25°	905	910	925	937	935	418
35°	788	790	808	827	826	489
45°	634	646	656	673	657	490
55°	474	470	483	480	479	421
65°	291	287	298	287	289	289
75°	121	119	121	112	116	130
85°	15	14	15	14	14	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1064.5	1064.5	1064.5	1064.5	1064.5
2.5°	1073.8	1065.6	1058.1	1066.9	1072.2
5°	1057.0	1054.5	1057.4	1054.2	1079.7
7.5°	1035.3	1044.8	1050.3	1046.8	1048.3
10°	1023.7	1020.4	1032.7	1041.2	1039.9
12.5°	1011.4	1016.3	1017.0	1026.2	1027.0
15°	1012.0	1000.4	1006.5	1011.8	1012.2
17.5°	972.7	985.4	989.6	1001.6	986.8
20°	967.9	958.7	967.9	980.2	978.2
22.5°	938.4	928.1	947.9	958.7	958.0
25°	904.8	909.8	924.6	936.7	934.8
27.5°	875.4	881.2	902.4	919.0	908.3
30°	852.7	849.9	867.7	882.6	890.8
32.5°	812.2	822.6	843.5	858.2	850.4
35°	787.6	789.9	808.2	826.9	826.3
37.5°	744.6	755.4	781.1	786.3	781.5
40°	707.9	718.7	742.0	747.6	745.3
42.5°	680.8	682.7	702.6	709.1	698.8
45°	633.6	645.5	656.2	673.1	657.1
47.5°	593.5	599.0	622.1	626.6	618.2
50°	557.1	559.0	582.2	576.6	571.1
52.5°	511.3	519.4	532.5	531.4	524.9
55°	473.7	470.5	482.9	479.6	479.4
57.5°	428.4	433.9	444.1	438.9	430.5
60°	386.1	386.2	389.9	384.0	382.9
62.5°	339.0	340.6	341.4	334.1	346.0
65°	291.0	287.1	298.4	287.0	288.9
67.5°	246.9	248.8	247.7	240.5	243.3
70°	202.1	204.5	202.7	194.6	197.1
72.5°	161.1	158.1	160.0	149.8	154.5
75°	121.1	118.6	120.8	112.3	116.1
77.5°	82.5	84.4	83.0	78.5	81.1
80°	54.4	52.9	52.9	50.3	50.9
82.5°	31.8	30.2	29.8	29.0	30.2
85°	14.8	14.4	14.7	14.3	13.7
87.5°	5.4	5.5	5.5	5.2	4.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)