

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: P563929

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-82-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563929
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-LD4-4LO-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

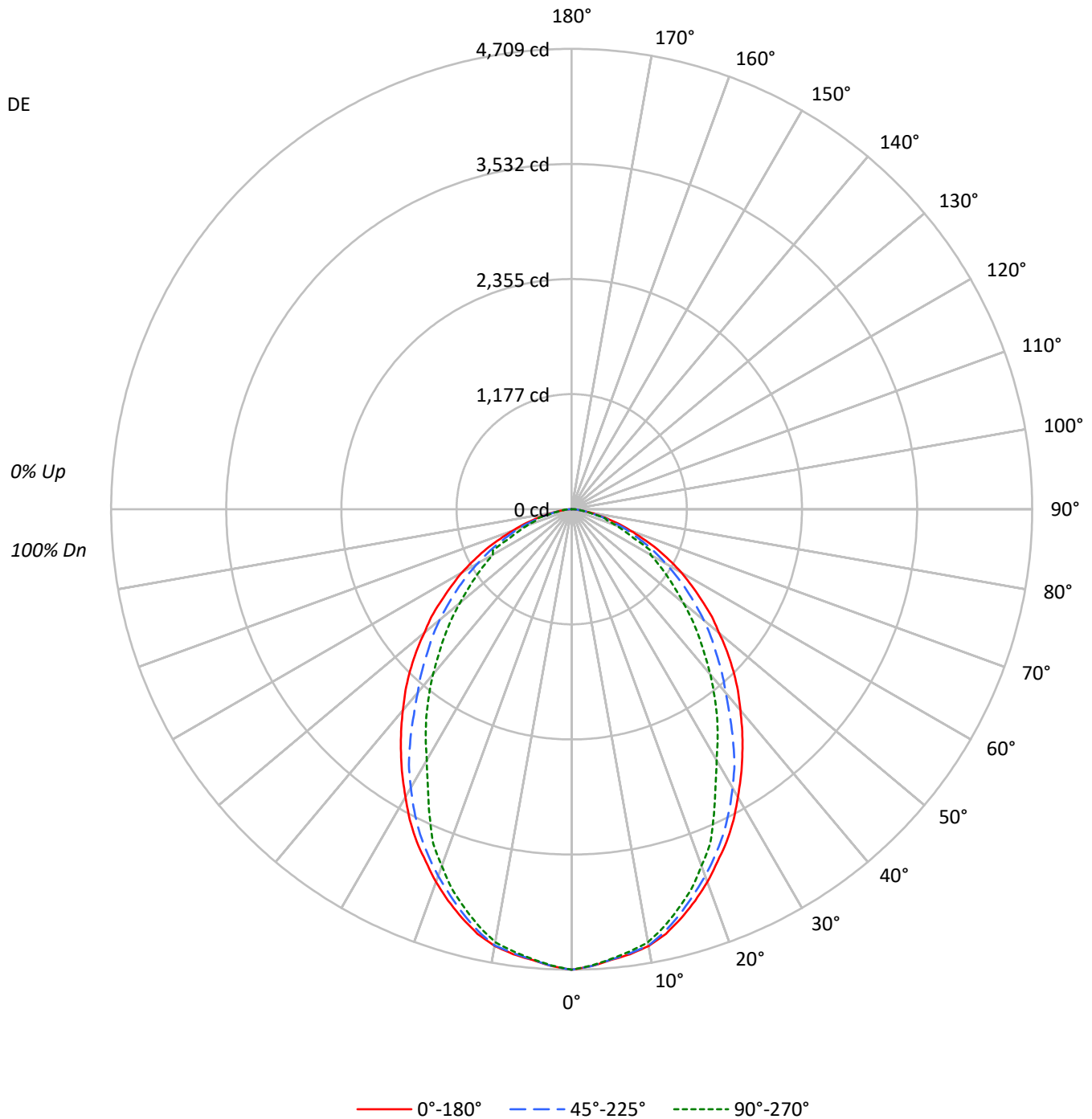
Lumens per Lamp: N/A
Luminaire Lumens: 9245.0 lumens
Efficiency: N/A
Efficacy: 98.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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°	6336	6336	6336
5°	6250	6243	6235
10°	6196	6189	6144
15°	6029	5968	5885
20°	5808	5714	5558
25°	5569	5448	5108
30°	5278	5109	4601
35°	4999	4722	4257
40°	4714	4303	3873
45°	4444	3978	3502
50°	4114	3692	3122
55°	3806	3346	2797
60°	3487	2989	2505
65°	3068	2617	2219
70°	2527	2292	1885
75°	2009	1755	1840
80°	1350	1265	1181
85°	840	1008	1176

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4444 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	438.4	4.7
10°-20°	1203.1	13.0
20°-30°	1665.6	18.0
30°-40°	1776.0	19.2
40°-50°	1620.2	17.5
50°-60°	1269.3	13.7
60°-70°	827.3	8.9
70°-80°	366.5	4.0
80°-90°	78.7	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°	3307.0	35.8
0°-40°	5083.0	55.0
0°-60°	7972.5	86.2
0°-90°	9245.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9245.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4709	4709	4709	4709	4709	
5°	4628	4622	4622	4617	4617	439
15°	4328	4328	4285	4241	4225	1217
25°	3751	3729	3669	3539	3441	1722
35°	3043	3022	2875	2657	2592	1903
45°	2336	2287	2091	1916	1840	1799
55°	1622	1573	1426	1258	1192	1455
65°	964	909	822	838	697	950
75°	386	359	338	321	354	414
85°	54	60	65	71	76	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4709.3	4709.3	4709.3	4709.3	4709.3
2.5°	4676.6	4676.6	4676.6	4671.2	4671.2
5°	4627.6	4622.2	4622.2	4616.7	4616.7
7.5°	4589.5	4584.1	4578.6	4573.2	4562.3
10°	4535.1	4535.1	4529.6	4502.4	4497.0
12.5°	4448.0	4442.5	4420.7	4382.6	4371.7
15°	4328.2	4328.2	4284.6	4241.1	4224.7
17.5°	4197.5	4192.1	4137.6	4094.1	4072.3
20°	4056.0	4045.1	3990.6	3919.9	3881.8
22.5°	3898.1	3898.1	3832.8	3740.2	3702.1
25°	3751.1	3729.3	3669.4	3538.8	3440.8
27.5°	3582.3	3549.7	3484.3	3299.2	3184.9
30°	3397.2	3380.9	3288.3	3048.8	2961.7
32.5°	3223.0	3195.8	3097.8	2847.3	2776.6
35°	3043.3	3021.6	2874.6	2656.8	2591.5
37.5°	2863.7	2836.5	2651.4	2477.1	2395.5
40°	2684.0	2651.4	2449.9	2292.0	2204.9
42.5°	2515.2	2471.7	2275.7	2106.9	2008.9
45°	2335.6	2286.6	2090.6	1916.4	1840.2
47.5°	2155.9	2112.4	1932.7	1753.0	1665.9
50°	1965.4	1927.3	1763.9	1584.3	1491.7
52.5°	1807.5	1747.6	1589.7	1410.1	1333.8
55°	1622.4	1573.4	1426.4	1257.6	1192.3
57.5°	1453.6	1404.6	1268.5	1110.6	1056.2
60°	1295.7	1225.0	1110.6	974.5	931.0
62.5°	1121.5	1067.1	969.1	854.7	909.2
65°	963.6	909.2	822.1	838.4	696.9
67.5°	789.4	762.2	686.0	609.8	588.0
70°	642.4	609.8	582.5	500.9	479.1
72.5°	511.8	479.1	441.0	397.4	381.1
75°	386.5	359.3	337.5	321.2	353.9
77.5°	266.8	255.9	239.5	223.2	217.8
80°	174.2	168.8	163.3	157.9	152.4
82.5°	103.4	103.4	103.4	103.4	103.4
85°	54.4	59.9	65.3	70.8	76.2
87.5°	32.7	32.7	38.1	43.6	49.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)