

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: P563350

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563350
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-LD4-3LO-40-UNV-82-87-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

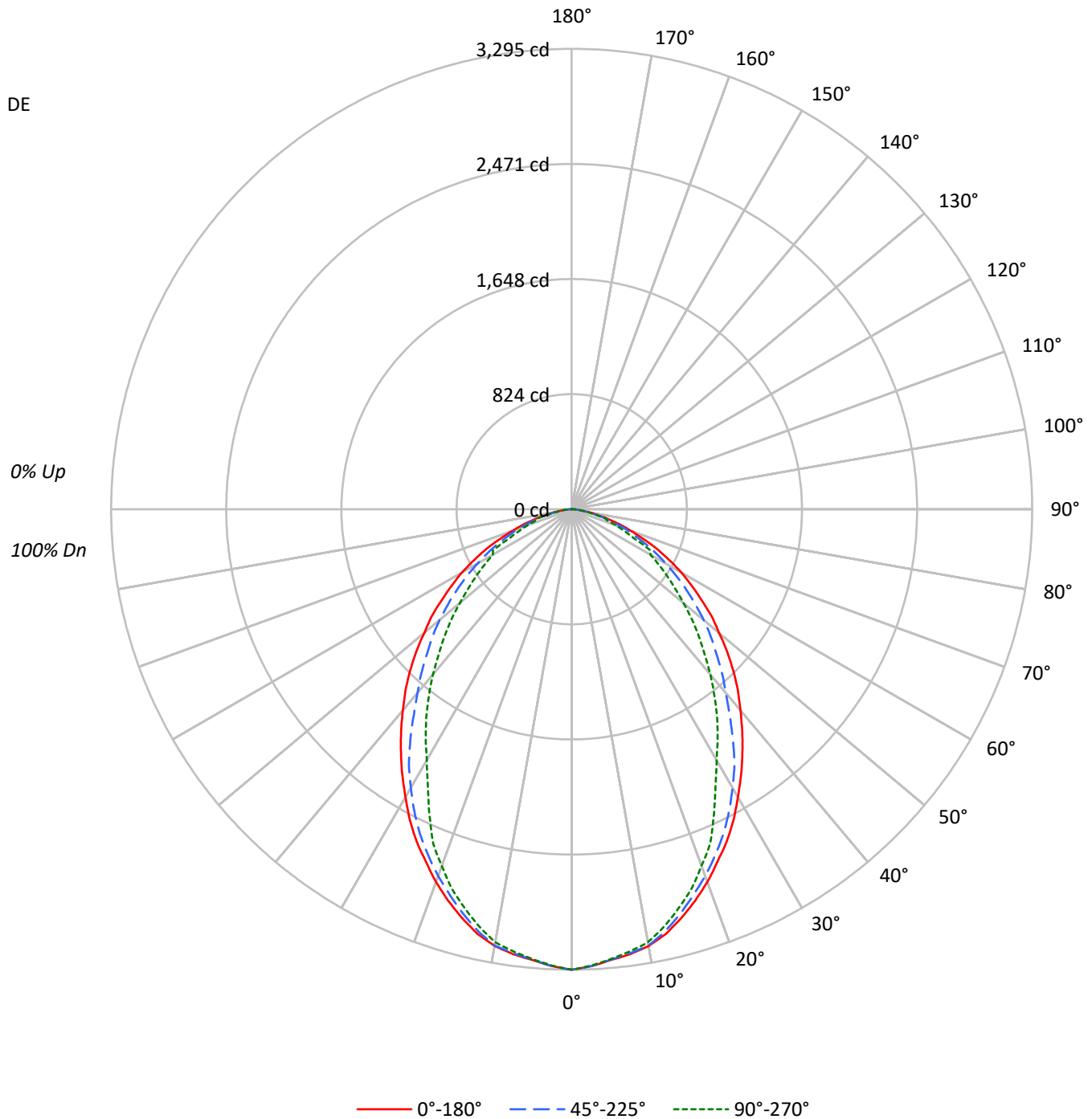
Lumens per Lamp: N/A
Luminaire Lumens: 6469.0 lumens
Efficiency: N/A
Efficacy: 92.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
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																												
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°	4434	4434	4434
5°	4373	4368	4363
10°	4336	4330	4299
15°	4219	4176	4118
20°	4064	3998	3889
25°	3897	3812	3574
30°	3693	3575	3220
35°	3498	3304	2978
40°	3299	3011	2710
45°	3110	2784	2450
50°	2879	2584	2185
55°	2663	2341	1957
60°	2440	2091	1753
65°	2147	1831	1552
70°	1768	1603	1319
75°	1406	1228	1287
80°	945	886	827
85°	588	706	823

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3110 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	306.7	4.7
10°-20°	841.8	13.0
20°-30°	1165.5	18.0
30°-40°	1242.7	19.2
40°-50°	1133.7	17.5
50°-60°	888.2	13.7
60°-70°	578.9	8.9
70°-80°	256.5	4.0
80°-90°	55.1	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°	2314.0	35.8
0°-40°	3556.7	55.0
0°-60°	5578.6	86.2
0°-90°	6469.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6469.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3295	3295	3295	3295	3295	
5°	3238	3234	3234	3230	3230	307
15°	3029	3029	2998	2968	2956	851
25°	2625	2610	2568	2476	2408	1205
35°	2130	2114	2011	1859	1813	1331
45°	1634	1600	1463	1341	1288	1259
55°	1135	1101	998	880	834	1018
65°	674	636	575	587	488	665
75°	270	251	236	225	248	290
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°	3295.2	3295.2	3295.2	3295.2	3295.2
2.5°	3272.4	3272.4	3272.4	3268.6	3268.6
5°	3238.1	3234.3	3234.3	3230.5	3230.5
7.5°	3211.4	3207.6	3203.8	3200.0	3192.4
10°	3173.3	3173.3	3169.5	3150.5	3146.7
12.5°	3112.4	3108.6	3093.3	3066.7	3059.0
15°	3028.6	3028.6	2998.1	2967.6	2956.2
17.5°	2937.1	2933.3	2895.2	2864.7	2849.5
20°	2838.1	2830.5	2792.4	2742.8	2716.2
22.5°	2727.6	2727.6	2681.9	2617.1	2590.5
25°	2624.7	2609.5	2567.6	2476.2	2407.6
27.5°	2506.7	2483.8	2438.1	2308.6	2228.6
30°	2377.1	2365.7	2300.9	2133.3	2072.4
32.5°	2255.2	2236.2	2167.6	1992.4	1942.8
35°	2129.5	2114.3	2011.4	1859.0	1813.3
37.5°	2003.8	1984.8	1855.2	1733.3	1676.2
40°	1878.1	1855.2	1714.3	1603.8	1542.8
42.5°	1760.0	1729.5	1592.4	1474.3	1405.7
45°	1634.3	1600.0	1462.9	1340.9	1287.6
47.5°	1508.6	1478.1	1352.4	1226.7	1165.7
50°	1375.2	1348.6	1234.3	1108.6	1043.8
52.5°	1264.8	1222.9	1112.4	986.7	933.3
55°	1135.2	1100.9	998.1	880.0	834.3
57.5°	1017.1	982.9	887.6	777.1	739.0
60°	906.7	857.1	777.1	681.9	651.4
62.5°	784.8	746.7	678.1	598.1	636.2
65°	674.3	636.2	575.2	586.7	487.6
67.5°	552.4	533.3	480.0	426.7	411.4
70°	449.5	426.7	407.6	350.5	335.2
72.5°	358.1	335.2	308.6	278.1	266.7
75°	270.5	251.4	236.2	224.8	247.6
77.5°	186.7	179.0	167.6	156.2	152.4
80°	121.9	118.1	114.3	110.5	106.7
82.5°	72.4	72.4	72.4	72.4	72.4
85°	38.1	41.9	45.7	49.5	53.3
87.5°	22.9	22.9	26.7	30.5	34.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)