

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: P563346

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563346
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-82-85-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6763.0 lumens
Efficiency: N/A
Efficacy: 96.3 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

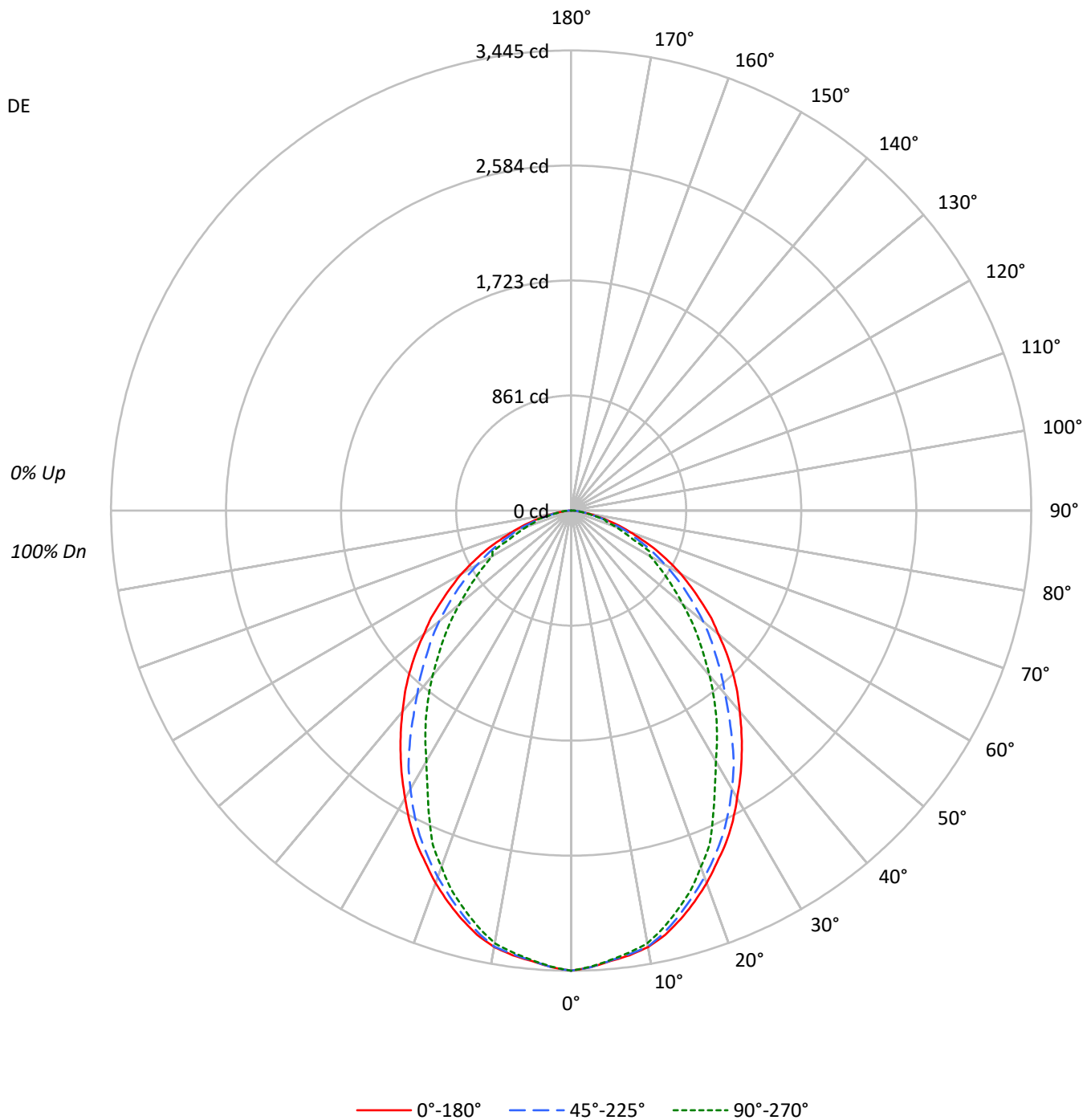
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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													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°	4635	4635	4635
5°	4572	4567	4561
10°	4533	4527	4495
15°	4410	4366	4305
20°	4248	4180	4066
25°	4074	3985	3737
30°	3861	3737	3366
35°	3657	3454	3114
40°	3449	3148	2833
45°	3251	2910	2561
50°	3009	2701	2284
55°	2784	2448	2046
60°	2551	2186	1833
65°	2244	1915	1623
70°	1849	1676	1379
75°	1470	1284	1346
80°	987	926	864
85°	614	738	861

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3251 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	320.7	4.7
10°-20°	880.1	13.0
20°-30°	1218.4	18.0
30°-40°	1299.2	19.2
40°-50°	1185.2	17.5
50°-60°	928.5	13.7
60°-70°	605.2	8.9
70°-80°	268.1	4.0
80°-90°	57.6	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°	2419.2	35.8
0°-40°	3718.4	55.0
0°-60°	5832.1	86.2
0°-90°	6763.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6763.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3445	3445	3445	3445	3445	
5°	3385	3381	3381	3377	3377	321
15°	3166	3166	3134	3102	3090	890
25°	2744	2728	2684	2589	2517	1260
35°	2226	2210	2103	1944	1896	1392
45°	1709	1673	1529	1402	1346	1316
55°	1187	1151	1044	920	872	1064
65°	705	665	601	613	510	695
75°	283	263	247	235	259	303
85°	40	44	48	52	56	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3445.0	3445.0	3445.0	3445.0	3445.0
2.5°	3421.1	3421.1	3421.1	3417.1	3417.1
5°	3385.2	3381.3	3381.3	3377.3	3377.3
7.5°	3357.4	3353.4	3349.4	3345.4	3337.5
10°	3317.5	3317.5	3313.6	3293.6	3289.7
12.5°	3253.8	3249.8	3233.9	3206.0	3198.1
15°	3166.2	3166.2	3134.3	3102.5	3090.5
17.5°	3070.6	3066.6	3026.8	2994.9	2979.0
20°	2967.1	2959.1	2919.3	2867.5	2839.6
22.5°	2851.6	2851.6	2803.8	2736.1	2708.2
25°	2744.0	2728.1	2684.3	2588.7	2517.0
27.5°	2620.6	2596.7	2548.9	2413.5	2329.8
30°	2485.2	2473.2	2405.5	2230.3	2166.6
32.5°	2357.7	2337.8	2266.1	2082.9	2031.1
35°	2226.3	2210.4	2102.8	1943.5	1895.7
37.5°	2094.9	2075.0	1939.5	1812.1	1752.4
40°	1963.4	1939.5	1792.2	1676.7	1613.0
42.5°	1840.0	1808.1	1664.7	1541.3	1469.6
45°	1708.6	1672.7	1529.3	1401.9	1346.1
47.5°	1577.1	1545.3	1413.8	1282.4	1218.7
50°	1437.7	1409.9	1290.4	1158.9	1091.2
52.5°	1322.2	1278.4	1162.9	1031.5	975.7
55°	1186.8	1151.0	1043.5	920.0	872.2
57.5°	1063.4	1027.5	928.0	812.5	772.6
60°	947.9	896.1	812.5	712.9	681.0
62.5°	820.4	780.6	708.9	625.3	665.1
65°	704.9	665.1	601.4	613.3	509.8
67.5°	577.5	557.6	501.8	446.1	430.1
70°	470.0	446.1	426.1	366.4	350.5
72.5°	374.4	350.5	322.6	290.7	278.8
75°	282.8	262.9	246.9	235.0	258.9
77.5°	195.1	187.2	175.2	163.3	159.3
80°	127.4	123.5	119.5	115.5	111.5
82.5°	75.7	75.7	75.7	75.7	75.7
85°	39.8	43.8	47.8	51.8	55.8
87.5°	23.9	23.9	27.9	31.9	35.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)