

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: P564162

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564162
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-LD4-4STD-50-UNV-81-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12988.0 lumens
Efficiency: N/A
Efficacy: 97.5 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

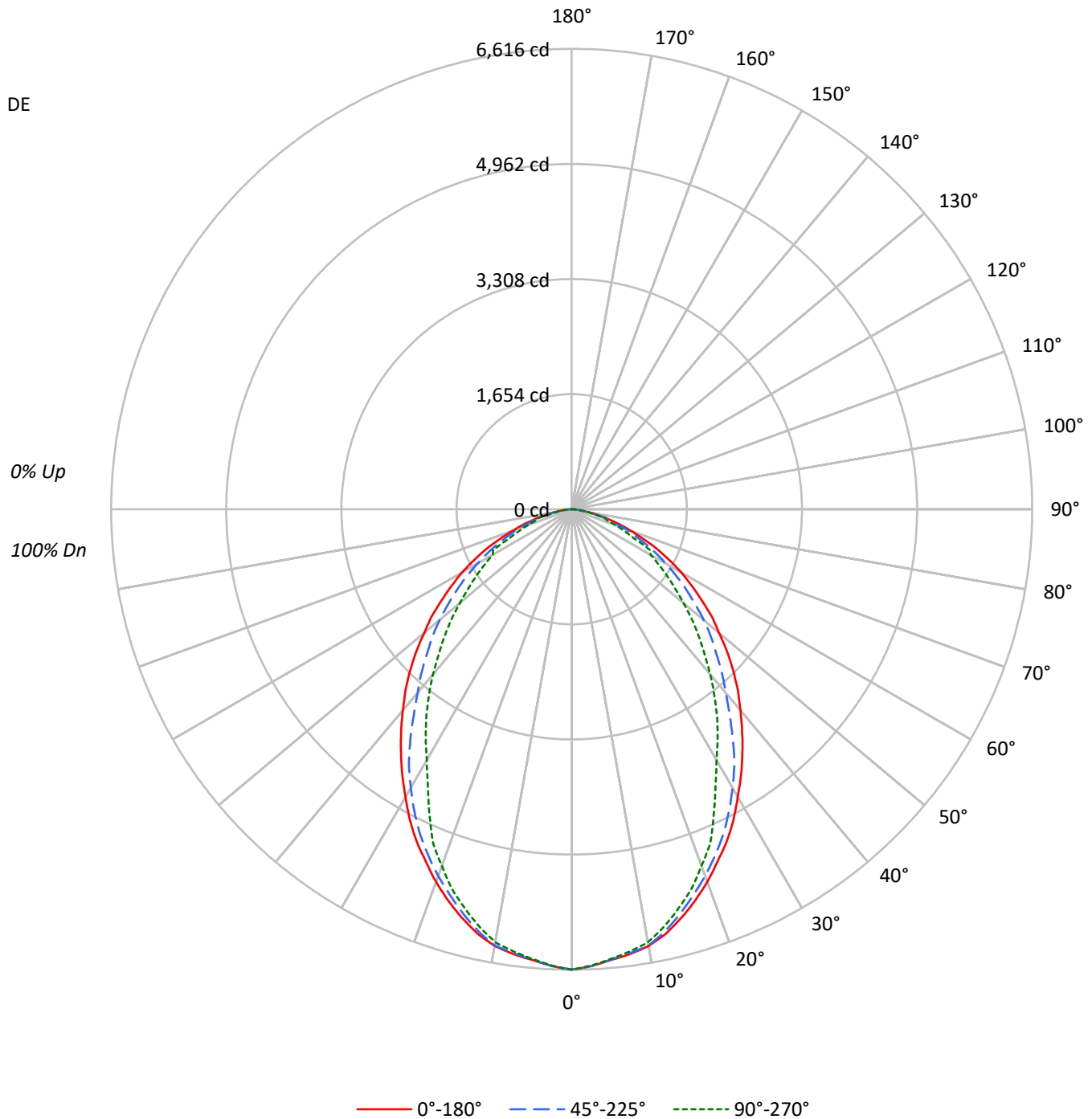
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8902	8902	8902
5°	8781	8770	8760
10°	8705	8694	8631
15°	8470	8385	8267
20°	8159	8027	7808
25°	7823	7653	7176
30°	7415	7177	6464
35°	7023	6633	5980
40°	6623	6045	5441
45°	6243	5589	4919
50°	5780	5187	4387
55°	5347	4701	3929
60°	4898	4199	3520
65°	4310	3677	3117
70°	3550	3220	2648
75°	2823	2465	2584
80°	1897	1778	1660
85°	1181	1417	1653

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6243 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	615.9	4.7
10°-20°	1690.1	13.0
20°-30°	2339.9	18.0
30°-40°	2495.0	19.2
40°-50°	2276.2	17.5
50°-60°	1783.2	13.7
60°-70°	1162.2	8.9
70°-80°	514.9	4.0
80°-90°	110.5	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°	4645.9	35.8
0°-40°	7140.9	55.0
0°-60°	11200.3	86.2
0°-90°	12988.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12988.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6616	6616	6616	6616	6616	
5°	6501	6494	6494	6486	6486	617
15°	6080	6080	6019	5958	5935	1709
25°	5270	5239	5155	4972	4834	2419
35°	4276	4245	4038	3732	3641	2673
45°	3281	3212	2937	2692	2585	2527
55°	2279	2210	2004	1767	1675	2044
65°	1354	1277	1155	1178	979	1334
75°	543	505	474	451	497	582
85°	76	84	92	99	107	106
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6615.9	6615.9	6615.9	6615.9	6615.9
2.5°	6570.0	6570.0	6570.0	6562.4	6562.4
5°	6501.2	6493.5	6493.5	6485.9	6485.9
7.5°	6447.6	6440.0	6432.4	6424.7	6409.4
10°	6371.2	6371.2	6363.5	6325.3	6317.6
12.5°	6248.8	6241.1	6210.5	6157.0	6141.7
15°	6080.5	6080.5	6019.3	5958.1	5935.2
17.5°	5897.0	5889.3	5812.8	5751.6	5721.0
20°	5698.1	5682.8	5606.3	5506.9	5453.3
22.5°	5476.3	5476.3	5384.5	5254.5	5200.9
25°	5269.8	5239.2	5155.1	4971.5	4833.8
27.5°	5032.7	4986.8	4895.0	4635.0	4474.3
30°	4772.6	4749.7	4619.7	4283.1	4160.8
32.5°	4527.9	4489.6	4352.0	4000.1	3900.7
35°	4275.5	4244.9	4038.4	3732.4	3640.7
37.5°	4023.1	3984.8	3724.8	3480.0	3365.3
40°	3770.7	3724.8	3441.8	3220.0	3097.6
42.5°	3533.6	3472.4	3197.1	2960.0	2822.3
45°	3281.2	3212.4	2937.0	2692.3	2585.2
47.5°	3028.8	2967.6	2715.2	2462.8	2340.4
50°	2761.1	2707.6	2478.1	2225.7	2095.7
52.5°	2539.3	2455.2	2233.3	1980.9	1873.9
55°	2279.2	2210.4	2003.9	1766.8	1675.0
57.5°	2042.1	1973.3	1782.1	1560.3	1483.8
60°	1820.3	1720.9	1560.3	1369.1	1307.9
62.5°	1575.6	1499.1	1361.4	1200.8	1277.3
65°	1353.8	1277.3	1154.9	1177.9	979.0
67.5°	1109.0	1070.8	963.7	856.6	826.0
70°	902.5	856.6	818.4	703.7	673.1
72.5°	719.0	673.1	619.5	558.3	535.4
75°	543.0	504.8	474.2	451.3	497.1
77.5°	374.8	359.5	336.5	313.6	305.9
80°	244.8	237.1	229.5	221.8	214.2
82.5°	145.3	145.3	145.3	145.3	145.3
85°	76.5	84.1	91.8	99.4	107.1
87.5°	45.9	45.9	53.5	61.2	68.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)