

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: P563781

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563781
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-LD4-4HI-50-UNV-81-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18105.0 lumens
Efficiency: N/A
Efficacy: 104.8 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

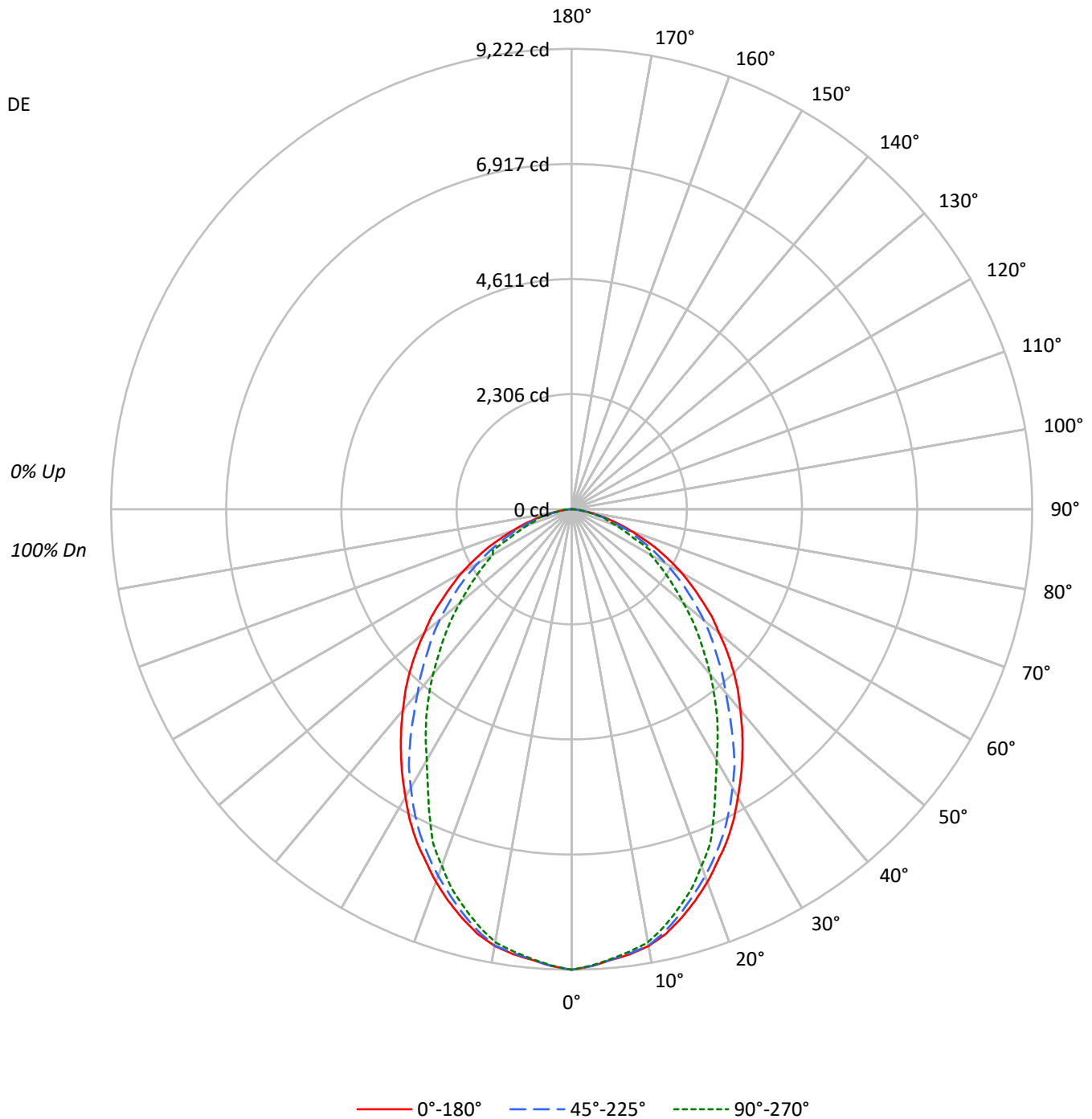
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	12409	12409	12409
5°	12240	12226	12211
10°	12134	12119	12032
15°	11807	11688	11525
20°	11373	11190	10885
25°	10906	10668	10003
30°	10336	10005	9011
35°	9789	9247	8336
40°	9232	8427	7584
45°	8703	7790	6857
50°	8057	7231	6115
55°	7453	6553	5477
60°	6828	5853	4906
65°	6008	5125	4345
70°	4949	4488	3691
75°	3935	3436	3603
80°	2644	2479	2313
85°	1646	1974	2305

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8703 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	858.5	4.7
10°-20°	2356.0	13.0
20°-30°	3261.8	18.0
30°-40°	3478.0	19.2
40°-50°	3173.0	17.5
50°-60°	2485.8	13.7
60°-70°	1620.1	8.9
70°-80°	717.8	4.0
80°-90°	154.1	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°	6476.3	35.8
0°-40°	9954.3	55.0
0°-60°	15613.0	86.2
0°-90°	18105.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18105.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9222	9222	9222	9222	9222	
5°	9062	9052	9052	9041	9041	860
15°	8476	8476	8391	8306	8274	2383
25°	7346	7303	7186	6930	6738	3373
35°	5960	5917	5629	5203	5075	3726
45°	4574	4478	4094	3753	3604	3523
55°	3177	3081	2793	2463	2335	2850
65°	1887	1780	1610	1642	1365	1860
75°	757	704	661	629	693	811
85°	107	117	128	139	149	148
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9222.4	9222.4	9222.4	9222.4	9222.4
2.5°	9158.5	9158.5	9158.5	9147.8	9147.8
5°	9062.5	9051.9	9051.9	9041.2	9041.2
7.5°	8987.9	8977.2	8966.6	8955.9	8934.6
10°	8881.3	8881.3	8870.6	8817.3	8806.6
12.5°	8710.7	8700.0	8657.4	8582.7	8561.4
15°	8476.1	8476.1	8390.8	8305.5	8273.5
17.5°	8220.2	8209.6	8103.0	8017.7	7975.0
20°	7943.0	7921.7	7815.1	7676.5	7601.9
22.5°	7633.8	7633.8	7505.9	7324.6	7250.0
25°	7346.0	7303.3	7186.0	6930.2	6738.2
27.5°	7015.5	6951.5	6823.5	6461.0	6237.1
30°	6653.0	6621.0	6439.7	5970.6	5800.0
32.5°	6311.8	6258.5	6066.6	5576.1	5437.5
35°	5959.9	5917.3	5629.4	5203.0	5075.0
37.5°	5608.1	5554.8	5192.3	4851.1	4691.2
40°	5256.3	5192.3	4797.8	4488.6	4318.0
42.5°	4925.7	4840.5	4456.6	4126.1	3934.2
45°	4573.9	4478.0	4094.1	3752.9	3603.7
47.5°	4222.1	4136.8	3784.9	3433.1	3262.5
50°	3848.9	3774.3	3454.4	3102.6	2921.3
52.5°	3539.7	3422.4	3113.2	2761.4	2612.1
55°	3177.2	3081.3	2793.4	2462.9	2334.9
57.5°	2846.7	2750.7	2484.2	2175.0	2068.4
60°	2537.5	2398.9	2175.0	1908.5	1823.2
62.5°	2196.3	2089.7	1897.8	1673.9	1780.5
65°	1887.1	1780.5	1609.9	1641.9	1364.7
67.5°	1546.0	1492.7	1343.4	1194.1	1151.5
70°	1258.1	1194.1	1140.8	980.9	938.2
72.5°	1002.2	938.2	863.6	778.3	746.3
75°	757.0	703.7	661.0	629.0	693.0
77.5°	522.4	501.1	469.1	437.1	426.5
80°	341.2	330.5	319.9	309.2	298.5
82.5°	202.6	202.6	202.6	202.6	202.6
85°	106.6	117.3	127.9	138.6	149.3
87.5°	64.0	64.0	74.6	85.3	96.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)