

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: P563395

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-81-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563395
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-50-UNV-81-85-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

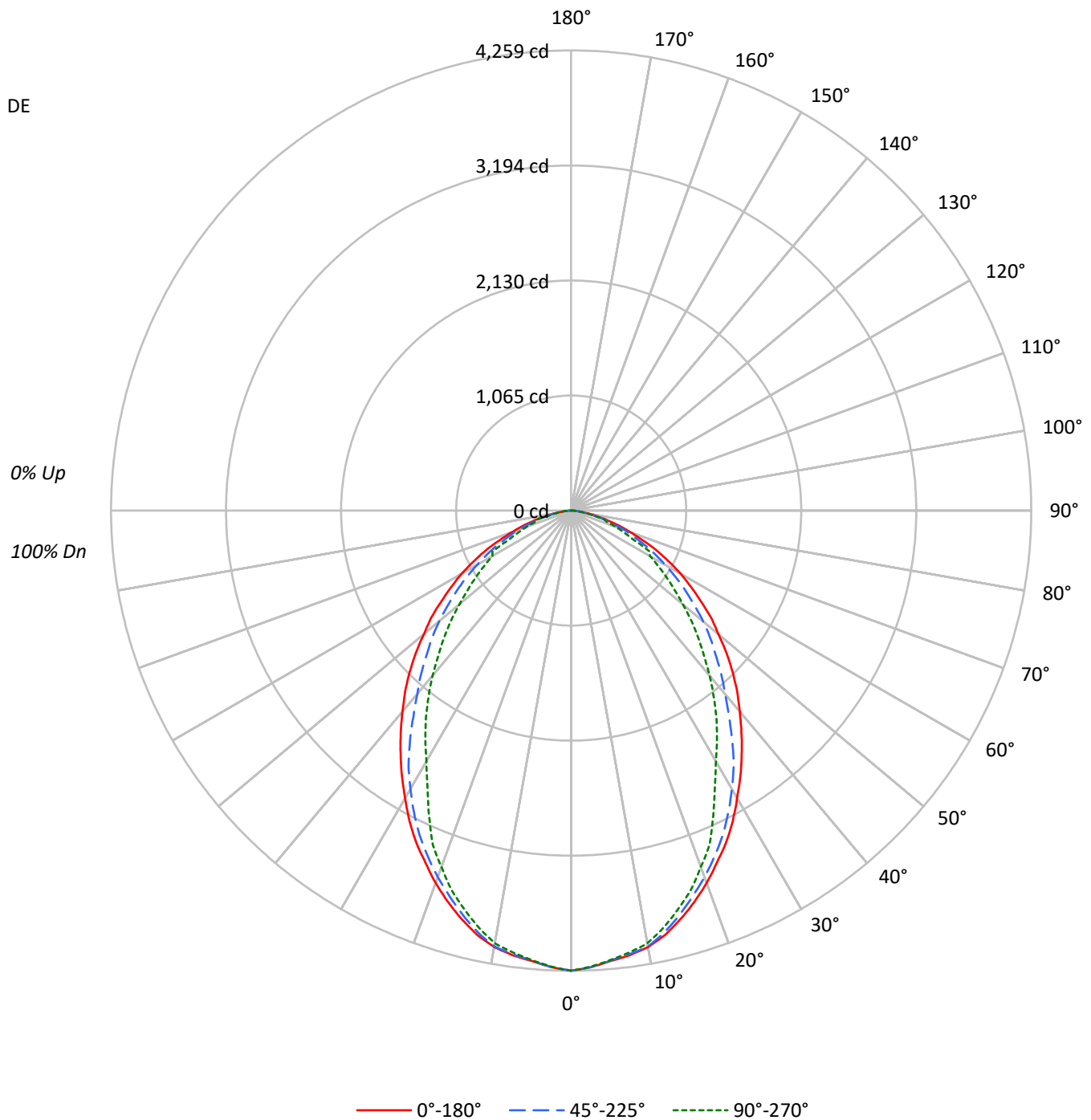
Lumens per Lamp: N/A
Luminaire Lumens: 8361.0 lumens
Efficiency: N/A
Efficacy: 119.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	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°	5730	5730	5730
5°	5653	5646	5639
10°	5604	5597	5557
15°	5452	5398	5322
20°	5252	5168	5027
25°	5036	4927	4620
30°	4773	4620	4161
35°	4521	4270	3850
40°	4264	3892	3502
45°	4019	3598	3167
50°	3720	3339	2824
55°	3442	3026	2529
60°	3153	2703	2266
65°	2775	2367	2006
70°	2286	2072	1705
75°	1817	1587	1664
80°	1221	1144	1068
85°	760	912	1064

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4019 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	396.5	4.7
10°-20°	1088.0	13.0
20°-30°	1506.3	18.0
30°-40°	1606.2	19.2
40°-50°	1465.3	17.5
50°-60°	1147.9	13.7
60°-70°	748.2	8.9
70°-80°	331.5	4.0
80°-90°	71.2	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°	2990.8	35.8
0°-40°	4597.0	55.0
0°-60°	7210.2	86.2
0°-90°	8361.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8361.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4259	4259	4259	4259	4259	
5°	4185	4180	4180	4175	4175	397
15°	3914	3914	3875	3836	3821	1100
25°	3392	3373	3319	3200	3112	1557
35°	2752	2733	2600	2403	2344	1721
45°	2112	2068	1891	1733	1664	1627
55°	1467	1423	1290	1137	1078	1316
65°	872	822	744	758	630	859
75°	350	325	305	290	320	375
85°	49	54	59	64	69	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4259.0	4259.0	4259.0	4259.0	4259.0
2.5°	4229.4	4229.4	4229.4	4224.5	4224.5
5°	4185.1	4180.2	4180.2	4175.3	4175.3
7.5°	4150.7	4145.7	4140.8	4135.9	4126.0
10°	4101.4	4101.4	4096.5	4071.9	4067.0
12.5°	4022.6	4017.7	3998.0	3963.6	3953.7
15°	3914.3	3914.3	3874.9	3835.5	3820.8
17.5°	3796.2	3791.2	3742.0	3702.6	3682.9
20°	3668.1	3658.3	3609.1	3545.0	3510.6
22.5°	3525.4	3525.4	3466.3	3382.6	3348.1
25°	3392.4	3372.7	3318.6	3200.4	3111.8
27.5°	3239.8	3210.2	3151.2	2983.7	2880.4
30°	3072.4	3057.6	2973.9	2757.3	2678.5
32.5°	2914.8	2890.2	2801.6	2575.1	2511.1
35°	2752.3	2732.6	2599.7	2402.8	2343.7
37.5°	2589.9	2565.2	2397.8	2240.3	2166.4
40°	2427.4	2397.8	2215.7	2072.9	1994.1
42.5°	2274.7	2235.3	2058.1	1905.5	1816.8
45°	2112.3	2067.9	1890.7	1733.1	1664.2
47.5°	1949.8	1910.4	1747.9	1585.4	1506.6
50°	1777.4	1743.0	1595.3	1432.8	1349.1
52.5°	1634.7	1580.5	1437.7	1275.2	1206.3
55°	1467.3	1422.9	1290.0	1137.4	1078.3
57.5°	1314.6	1270.3	1147.2	1004.4	955.2
60°	1171.8	1107.8	1004.4	881.3	841.9
62.5°	1014.3	965.0	876.4	773.0	822.3
65°	871.5	822.3	743.5	758.2	630.2
67.5°	713.9	689.3	620.4	551.5	531.8
70°	581.0	551.5	526.8	453.0	433.3
72.5°	462.8	433.3	398.8	359.4	344.7
75°	349.6	325.0	305.3	290.5	320.0
77.5°	241.3	231.4	216.6	201.9	196.9
80°	157.6	152.6	147.7	142.8	137.9
82.5°	93.5	93.5	93.5	93.5	93.5
85°	49.2	54.2	59.1	64.0	68.9
87.5°	29.5	29.5	34.5	39.4	44.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)