

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: P561093

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561093
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-12-4-LD4-1LO-50-UNV-81-86-EDD
Description: 1X4 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

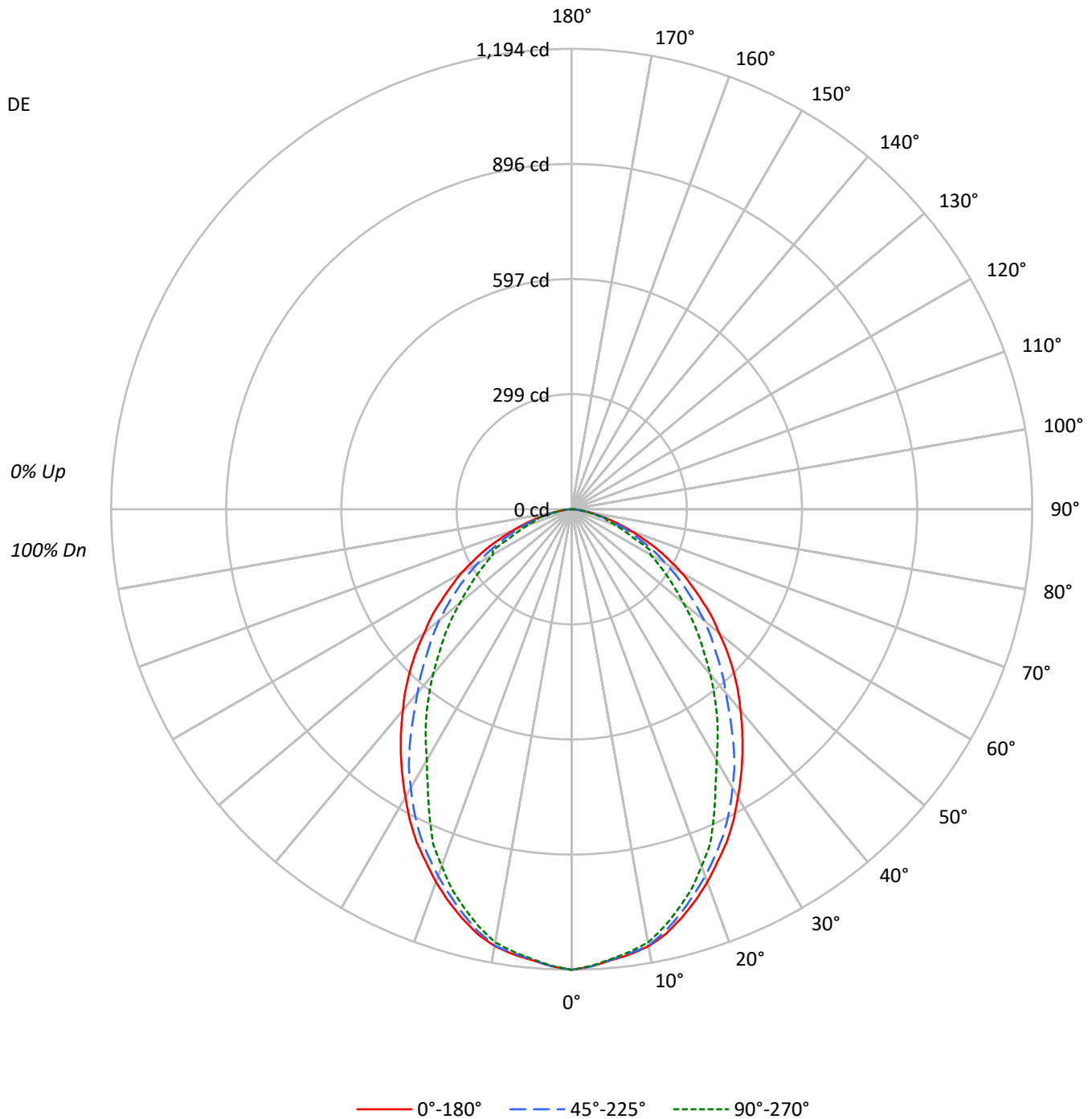
Lumens per Lamp: N/A
Luminaire Lumens: 2345.0 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	3214	3214	3214
5°	3171	3167	3163
10°	3143	3139	3117
15°	3058	3028	2985
20°	2946	2899	2820
25°	2825	2764	2591
30°	2678	2592	2334
35°	2536	2395	2159
40°	2392	2183	1965
45°	2254	2018	1776
50°	2087	1873	1584
55°	1931	1697	1419
60°	1769	1516	1271
65°	1556	1328	1126
70°	1282	1163	956
75°	1019	890	934
80°	685	642	600
85°	426	513	596

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2254 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.2	4.7
10°-20°	305.2	13.0
20°-30°	422.5	18.0
30°-40°	450.5	19.2
40°-50°	411.0	17.5
50°-60°	322.0	13.7
60°-70°	209.8	8.9
70°-80°	93.0	4.0
80°-90°	20.0	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°	838.8	35.8
0°-40°	1289.3	55.0
0°-60°	2022.2	86.2
0°-90°	2345.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2345.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1194	1194	1194	1194	1194	
5°	1174	1172	1172	1171	1171	111
15°	1098	1098	1087	1076	1072	309
25°	952	946	931	898	873	437
35°	772	766	729	674	657	483
45°	592	580	530	486	467	456
55°	412	399	362	319	302	369
65°	244	231	208	213	177	241
75°	98	91	86	82	90	105
85°	14	15	17	18	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1194.5	1194.5	1194.5	1194.5	1194.5
2.5°	1186.2	1186.2	1186.2	1184.8	1184.8
5°	1173.8	1172.4	1172.4	1171.0	1171.0
7.5°	1164.1	1162.8	1161.4	1160.0	1157.2
10°	1150.3	1150.3	1148.9	1142.0	1140.7
12.5°	1128.2	1126.8	1121.3	1111.7	1108.9
15°	1097.8	1097.8	1086.8	1075.8	1071.6
17.5°	1064.7	1063.3	1049.5	1038.5	1032.9
20°	1028.8	1026.0	1012.2	994.3	984.6
22.5°	988.8	988.8	972.2	948.7	939.0
25°	951.5	945.9	930.8	897.6	872.8
27.5°	908.7	900.4	883.8	836.8	807.8
30°	861.7	857.6	834.1	773.3	751.2
32.5°	817.5	810.6	785.8	722.2	704.3
35°	771.9	766.4	729.1	673.9	657.3
37.5°	726.4	719.5	672.5	628.3	607.6
40°	680.8	672.5	621.4	581.4	559.3
42.5°	638.0	626.9	577.2	534.4	509.6
45°	592.4	580.0	530.3	486.1	466.8
47.5°	546.9	535.8	490.2	444.7	422.6
50°	498.5	488.9	447.4	401.9	378.4
52.5°	458.5	443.3	403.2	357.7	338.3
55°	411.5	399.1	361.8	319.0	302.4
57.5°	368.7	356.3	321.8	281.7	267.9
60°	328.7	310.7	281.7	247.2	236.1
62.5°	284.5	270.7	245.8	216.8	230.6
65°	244.4	230.6	208.5	212.7	176.8
67.5°	200.2	193.3	174.0	154.7	149.1
70°	163.0	154.7	147.8	127.0	121.5
72.5°	129.8	121.5	111.9	100.8	96.7
75°	98.0	91.1	85.6	81.5	89.8
77.5°	67.7	64.9	60.8	56.6	55.2
80°	44.2	42.8	41.4	40.0	38.7
82.5°	26.2	26.2	26.2	26.2	26.2
85°	13.8	15.2	16.6	18.0	19.3
87.5°	8.3	8.3	9.7	11.0	12.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)