

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: P563331

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-81-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563331
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-81-85-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

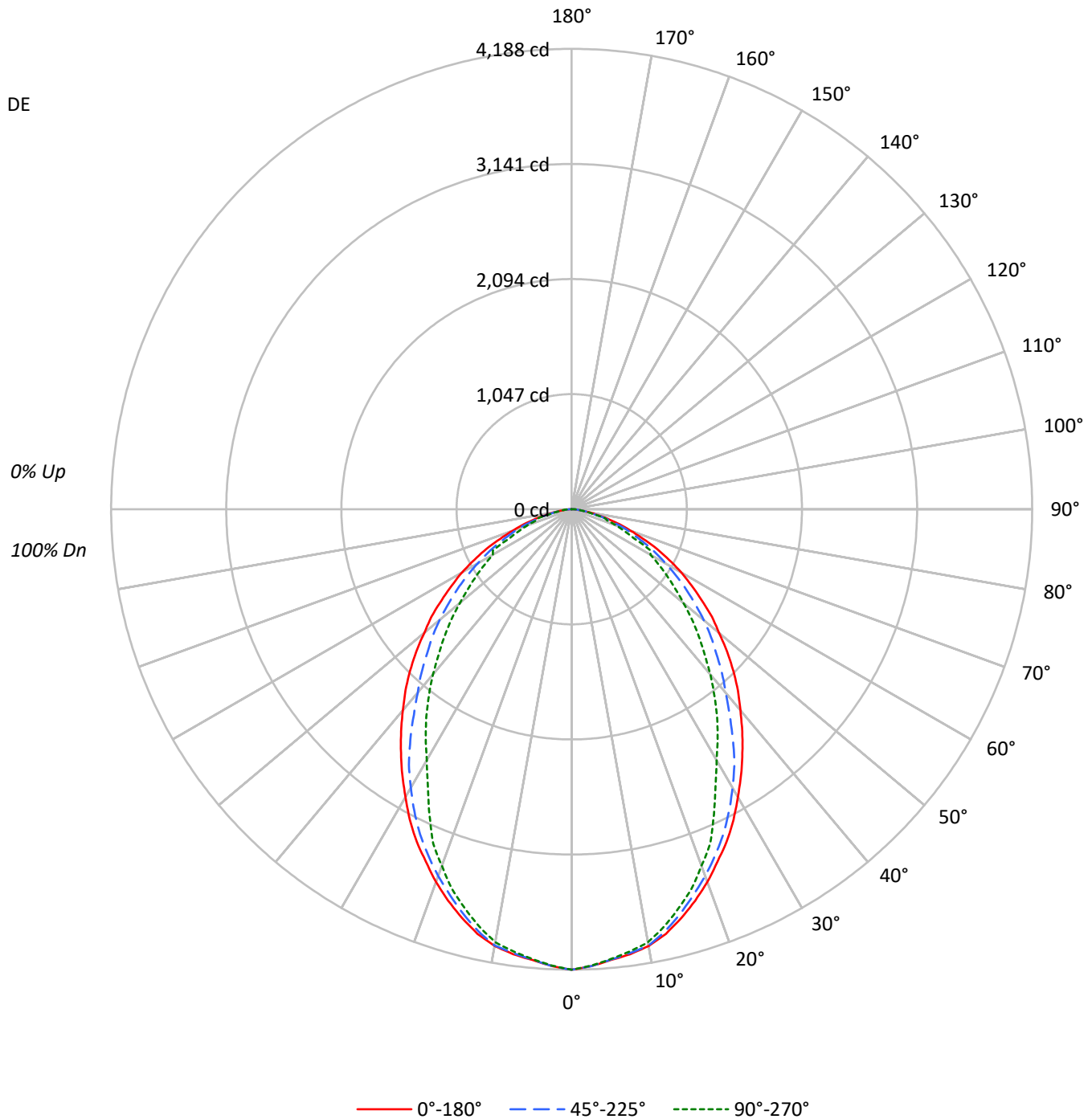
Lumens per Lamp: N/A
Luminaire Lumens: 8222.0 lumens
Efficiency: N/A
Efficacy: 117.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	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°	5635	5635	5635
5°	5559	5552	5546
10°	5510	5504	5464
15°	5362	5308	5234
20°	5165	5082	4943
25°	4953	4845	4543
30°	4694	4544	4092
35°	4446	4199	3786
40°	4193	3827	3444
45°	3952	3538	3114
50°	3659	3284	2777
55°	3385	2976	2487
60°	3101	2658	2228
65°	2728	2328	1973
70°	2247	2038	1676
75°	1787	1561	1636
80°	1200	1126	1051
85°	747	897	1047

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3952 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	389.9	4.7
10°-20°	1069.9	13.0
20°-30°	1481.3	18.0
30°-40°	1579.5	19.2
40°-50°	1440.9	17.5
50°-60°	1128.9	13.7
60°-70°	735.7	8.9
70°-80°	326.0	4.0
80°-90°	70.0	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°	2941.1	35.8
0°-40°	4520.5	55.0
0°-60°	7090.3	86.2
0°-90°	8222.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8222.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4188	4188	4188	4188	4188	
5°	4116	4111	4111	4106	4106	391
15°	3849	3849	3810	3772	3757	1082
25°	3336	3317	3263	3147	3060	1532
35°	2707	2687	2556	2363	2305	1692
45°	2077	2034	1859	1704	1636	1600
55°	1443	1399	1269	1118	1060	1294
65°	857	809	731	746	620	845
75°	344	320	300	286	315	368
85°	48	53	58	63	68	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4188.2	4188.2	4188.2	4188.2	4188.2
2.5°	4159.1	4159.1	4159.1	4154.3	4154.3
5°	4115.5	4110.7	4110.7	4105.9	4105.9
7.5°	4081.7	4076.8	4072.0	4067.1	4057.4
10°	4033.2	4033.2	4028.4	4004.2	3999.3
12.5°	3955.8	3950.9	3931.6	3897.7	3888.0
15°	3849.2	3849.2	3810.5	3771.8	3757.3
17.5°	3733.0	3728.2	3679.8	3641.1	3621.7
20°	3607.2	3597.5	3549.1	3486.1	3452.2
22.5°	3466.7	3466.7	3408.6	3326.3	3292.4
25°	3336.0	3316.6	3263.4	3147.2	3060.0
27.5°	3185.9	3156.9	3098.8	2934.1	2832.5
30°	3021.3	3006.8	2924.5	2711.4	2634.0
32.5°	2866.4	2842.2	2755.0	2532.3	2469.3
35°	2706.6	2687.2	2556.5	2362.8	2304.7
37.5°	2546.8	2522.6	2358.0	2203.0	2130.4
40°	2387.0	2358.0	2178.8	2038.4	1960.9
42.5°	2236.9	2198.2	2023.9	1873.8	1786.6
45°	2077.1	2033.6	1859.3	1704.3	1636.5
47.5°	1917.4	1878.6	1718.8	1559.1	1481.6
50°	1747.9	1714.0	1568.8	1409.0	1326.7
52.5°	1607.5	1554.2	1413.8	1254.0	1186.2
55°	1442.9	1399.3	1268.6	1118.5	1060.4
57.5°	1292.8	1249.2	1128.1	987.7	939.3
60°	1152.4	1089.4	987.7	866.7	828.0
62.5°	997.4	949.0	861.8	760.2	808.6
65°	857.0	808.6	731.1	745.6	619.8
67.5°	702.1	677.9	610.1	542.3	522.9
70°	571.3	542.3	518.1	445.4	426.1
72.5°	455.1	426.1	392.2	353.5	338.9
75°	343.8	319.6	300.2	285.7	314.7
77.5°	237.2	227.6	213.0	198.5	193.7
80°	154.9	150.1	145.3	140.4	135.6
82.5°	92.0	92.0	92.0	92.0	92.0
85°	48.4	53.3	58.1	62.9	67.8
87.5°	29.1	29.1	33.9	38.7	43.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)