

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: P561603

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-81-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561603
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-LD4-2LO-40-UNV-81-85-EDD
Description: 1X4 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

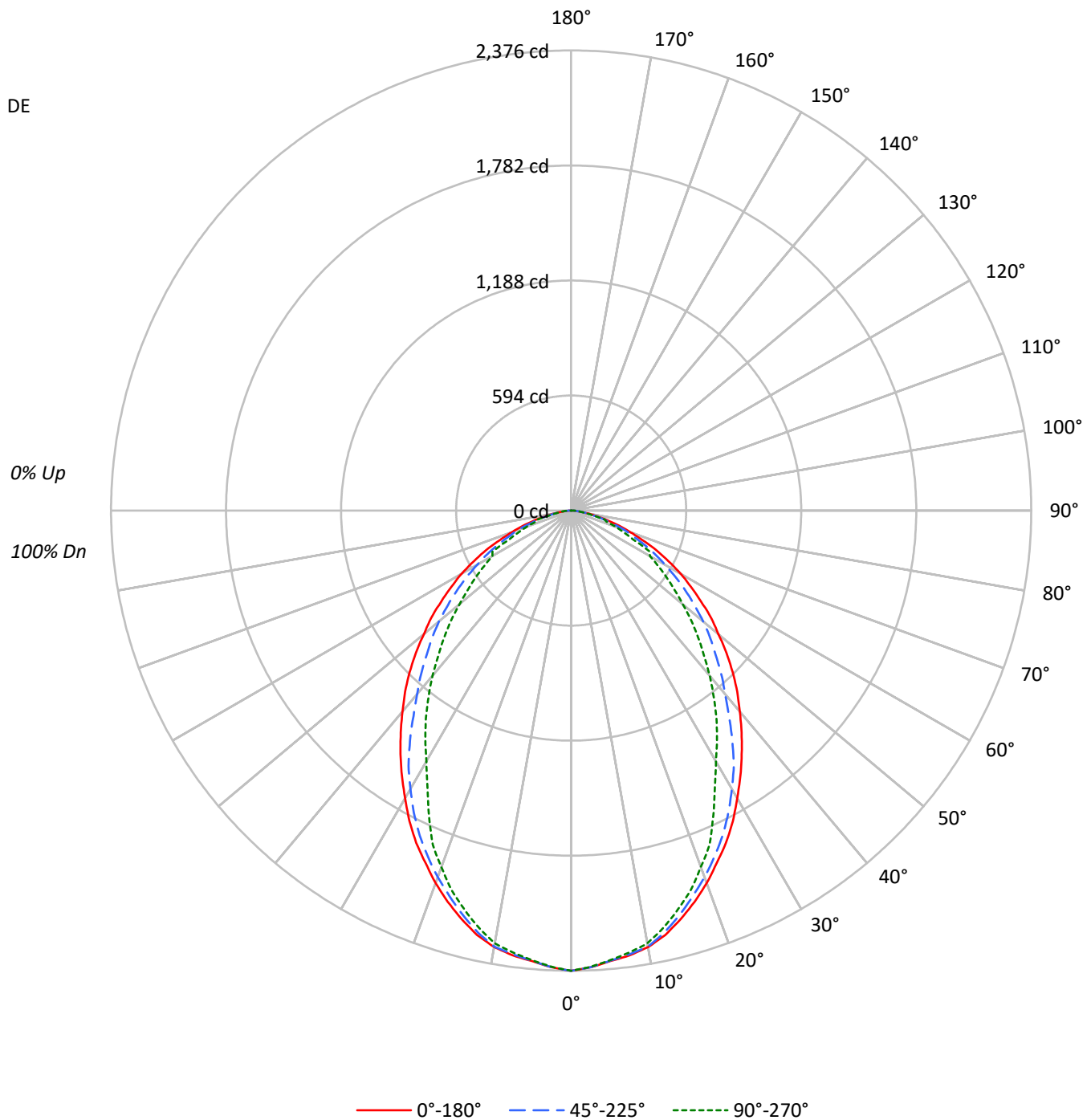
Lumens per Lamp: N/A
Luminaire Lumens: 4665.0 lumens
Efficiency: N/A
Efficacy: 99.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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	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°	6395	6395	6395
5°	6308	6300	6293
10°	6253	6245	6200
15°	6084	6023	5939
20°	5861	5767	5609
25°	5620	5498	5155
30°	5326	5156	4644
35°	5045	4765	4296
40°	4757	4343	3908
45°	4485	4015	3534
50°	4152	3726	3151
55°	3841	3377	2822
60°	3519	3016	2528
65°	3096	2641	2239
70°	2551	2312	1902
75°	2027	1771	1857
80°	1362	1277	1192
85°	849	1019	1189

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4485 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.2	4.7
10°-20°	607.1	13.0
20°-30°	840.4	18.0
30°-40°	896.2	19.2
40°-50°	817.5	17.5
50°-60°	640.5	13.7
60°-70°	417.4	8.9
70°-80°	184.9	4.0
80°-90°	39.7	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°	1668.7	35.8
0°-40°	2564.9	55.0
0°-60°	4022.9	86.2
0°-90°	4665.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4665.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2376	2376	2376	2376	2376	
5°	2335	2332	2332	2330	2330	222
15°	2184	2184	2162	2140	2132	614
25°	1893	1882	1852	1786	1736	869
35°	1536	1525	1450	1341	1308	960
45°	1178	1154	1055	967	928	908
55°	819	794	720	635	602	734
65°	486	459	415	423	352	479
75°	195	181	170	162	179	209
85°	28	30	33	36	38	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2376.3	2376.3	2376.3	2376.3	2376.3
2.5°	2359.8	2359.8	2359.8	2357.1	2357.1
5°	2335.1	2332.3	2332.3	2329.6	2329.6
7.5°	2315.9	2313.1	2310.4	2307.6	2302.1
10°	2288.4	2288.4	2285.6	2271.9	2269.1
12.5°	2244.4	2241.7	2230.7	2211.5	2206.0
15°	2184.0	2184.0	2162.0	2140.0	2131.8
17.5°	2118.1	2115.3	2087.8	2065.9	2054.9
20°	2046.6	2041.1	2013.7	1978.0	1958.7
22.5°	1967.0	1967.0	1934.0	1887.3	1868.1
25°	1892.8	1881.8	1851.6	1785.7	1736.2
27.5°	1807.6	1791.1	1758.2	1664.8	1607.1
30°	1714.2	1706.0	1659.3	1538.4	1494.5
32.5°	1626.3	1612.6	1563.1	1436.8	1401.0
35°	1535.7	1524.7	1450.5	1340.6	1307.6
37.5°	1445.0	1431.3	1337.9	1250.0	1208.7
40°	1354.3	1337.9	1236.2	1156.6	1112.6
42.5°	1269.2	1247.2	1148.3	1063.1	1013.7
45°	1178.5	1153.8	1054.9	967.0	928.5
47.5°	1087.9	1065.9	975.2	884.6	840.6
50°	991.7	972.5	890.1	799.4	752.7
52.5°	912.1	881.8	802.2	711.5	673.1
55°	818.7	793.9	719.8	634.6	601.6
57.5°	733.5	708.8	640.1	560.4	532.9
60°	653.8	618.1	560.4	491.7	469.8
62.5°	565.9	538.4	489.0	431.3	458.8
65°	486.2	458.8	414.8	423.1	351.6
67.5°	398.3	384.6	346.1	307.7	296.7
70°	324.2	307.7	293.9	252.7	241.7
72.5°	258.2	241.7	222.5	200.5	192.3
75°	195.0	181.3	170.3	162.1	178.6
77.5°	134.6	129.1	120.9	112.6	109.9
80°	87.9	85.2	82.4	79.7	76.9
82.5°	52.2	52.2	52.2	52.2	52.2
85°	27.5	30.2	33.0	35.7	38.5
87.5°	16.5	16.5	19.2	22.0	24.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)