

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: P562056

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-81-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562056  
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-LD4-1HI-40-UNV-81-88-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

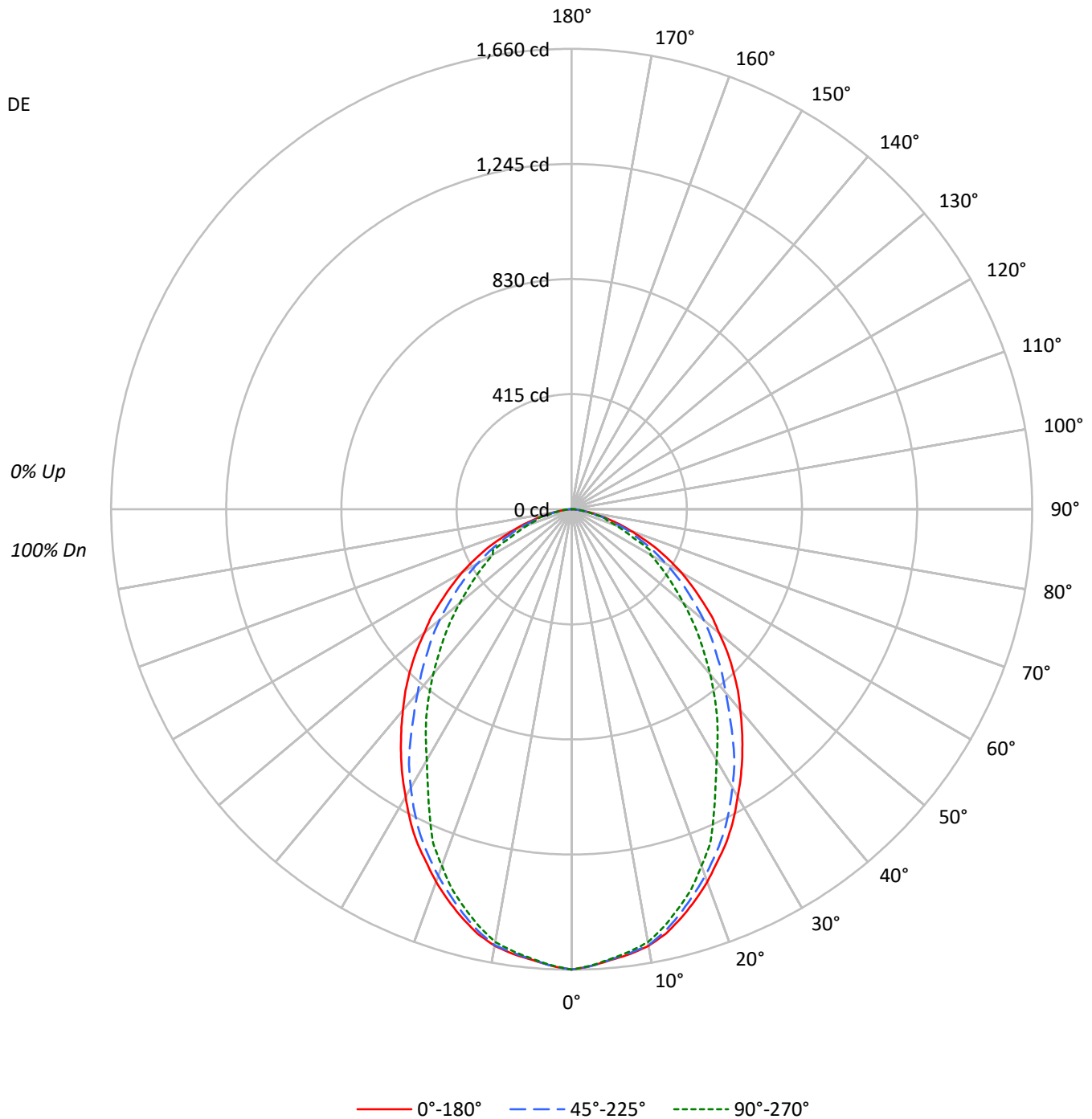
Lumens per Lamp: N/A  
Luminaire Lumens: 3258.0 lumens  
Efficiency: N/A  
Efficacy: 75.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2233	2233	2233
5°	2203	2200	2197
10°	2184	2181	2165
15°	2125	2103	2074
20°	2047	2014	1959
25°	1962	1920	1800
30°	1860	1800	1622
35°	1762	1664	1500
40°	1661	1516	1365
45°	1566	1402	1234
50°	1450	1301	1100
55°	1341	1179	986
60°	1229	1053	883
65°	1081	922	782
70°	891	808	664
75°	708	619	648
80°	476	446	416
85°	296	355	415

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1566 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	154.5	4.7
10°-20°	424.0	13.0
20°-30°	587.0	18.0
30°-40°	625.9	19.2
40°-50°	571.0	17.5
50°-60°	447.3	13.7
60°-70°	291.5	8.9
70°-80°	129.2	4.0
80°-90°	27.7	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°	1165.4	35.8
0°-40°	1791.3	55.0
0°-60°	2809.6	86.2
0°-90°	3258.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3258.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1660	1660	1660	1660	1660	
5°	1631	1629	1629	1627	1627	155
15°	1525	1525	1510	1495	1489	429
25°	1322	1314	1293	1247	1212	607
35°	1072	1065	1013	936	913	671
45°	823	806	737	675	648	634
55°	572	554	503	443	420	513
65°	340	320	290	296	246	335
75°	136	127	119	113	125	146
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1659.6	1659.6	1659.6	1659.6	1659.6
2.5°	1648.1	1648.1	1648.1	1646.2	1646.2
5°	1630.8	1628.9	1628.9	1627.0	1627.0
7.5°	1617.4	1615.5	1613.5	1611.6	1607.8
10°	1598.2	1598.2	1596.3	1586.7	1584.8
12.5°	1567.5	1565.6	1557.9	1544.5	1540.6
15°	1525.3	1525.3	1509.9	1494.6	1488.8
17.5°	1479.2	1477.3	1458.1	1442.8	1435.1
20°	1429.4	1425.5	1406.3	1381.4	1368.0
22.5°	1373.7	1373.7	1350.7	1318.1	1304.6
25°	1321.9	1314.2	1293.1	1247.1	1212.5
27.5°	1262.4	1250.9	1227.9	1162.7	1122.4
30°	1197.2	1191.4	1158.8	1074.4	1043.7
32.5°	1135.8	1126.2	1091.7	1003.4	978.5
35°	1072.5	1064.8	1013.0	936.3	913.2
37.5°	1009.2	999.6	934.4	873.0	844.2
40°	945.9	934.4	863.4	807.7	777.0
42.5°	886.4	871.0	802.0	742.5	708.0
45°	823.1	805.8	736.7	675.3	648.5
47.5°	759.8	744.4	681.1	617.8	587.1
50°	692.6	679.2	621.6	558.3	525.7
52.5°	637.0	615.9	560.2	496.9	470.1
55°	571.7	554.5	502.7	443.2	420.2
57.5°	512.3	495.0	447.0	391.4	372.2
60°	456.6	431.7	391.4	343.4	328.1
62.5°	395.2	376.0	341.5	301.2	320.4
65°	339.6	320.4	289.7	295.5	245.6
67.5°	278.2	268.6	241.7	214.9	207.2
70°	226.4	214.9	205.3	176.5	168.8
72.5°	180.3	168.8	155.4	140.1	134.3
75°	136.2	126.6	119.0	113.2	124.7
77.5°	94.0	90.2	84.4	78.7	76.7
80°	61.4	59.5	57.6	55.6	53.7
82.5°	36.5	36.5	36.5	36.5	36.5
85°	19.2	21.1	23.0	24.9	26.9
87.5°	11.5	11.5	13.4	15.3	17.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)