

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P311376

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-4500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P311376  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 4500K TUNABLE CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: 

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

**Summary**

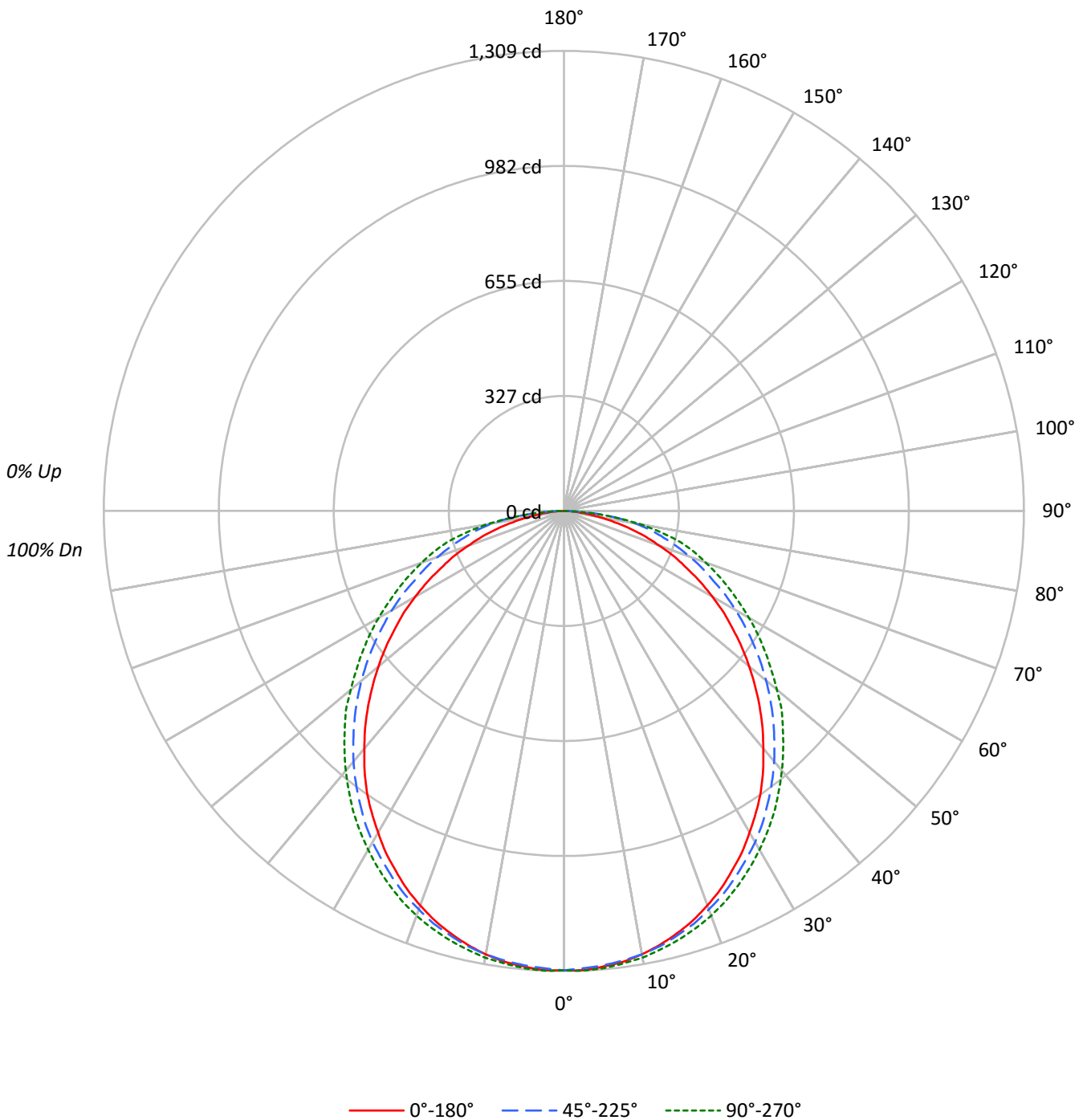
Lumens per Lamp: N/A  
Luminaire Lumens: 3720.0 lumens  
Efficiency: N/A  
Efficacy: 120.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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: 25 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	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1758	1758	1758
5°	1757	1752	1764
10°	1750	1750	1763
15°	1733	1741	1759
20°	1710	1727	1754
25°	1679	1710	1744
30°	1641	1691	1729
35°	1605	1663	1716
40°	1550	1635	1696
45°	1500	1603	1677
50°	1442	1573	1657
55°	1378	1544	1641
60°	1313	1520	1637
65°	1230	1493	1648
70°	1139	1502	1692
75°	1019	1529	1787
80°	824	1620	1749
85°	621	1423	1386



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.7	3.3
10°-20°	353.5	9.5
20°-30°	531.4	14.3
30°-40°	633.0	17.0
40°-50°	647.9	17.4
50°-60°	583.3	15.7
60°-70°	458.0	12.3
70°-80°	297.3	8.0
80°-90°	91.9	2.5
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°	1008.7	27.1
0°-40°	1641.7	44.1
0°-60°	2872.8	77.2
0°-90°	3720.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3720.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1307	1307	1307	1307	1307	
5°	1301	1303	1297	1304	1306	124
15°	1244	1248	1250	1261	1263	351
25°	1131	1140	1152	1171	1174	521
35°	977	989	1013	1038	1044	610
45°	788	807	842	874	882	608
55°	587	613	658	692	700	527
65°	386	416	469	508	518	385
75°	196	234	294	334	344	208
85°	40	74	92	90	90	49
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1306.9	1306.9	1306.9	1306.9	1306.9
2.5°	1308.0	1308.0	1302.1	1308.0	1309.2
5°	1301.0	1303.3	1297.4	1304.5	1305.7
7.5°	1293.9	1293.9	1290.3	1297.4	1298.6
10°	1280.9	1282.0	1280.9	1289.1	1290.3
12.5°	1264.3	1266.7	1267.9	1276.1	1277.3
15°	1244.2	1247.8	1250.1	1260.8	1263.1
17.5°	1221.8	1225.3	1231.2	1243.1	1245.4
20°	1194.6	1199.3	1206.4	1221.8	1225.3
22.5°	1165.1	1169.8	1181.6	1195.8	1201.7
25°	1130.8	1140.3	1152.1	1171.0	1174.5
27.5°	1096.5	1104.8	1120.2	1140.3	1145.0
30°	1056.4	1069.4	1088.3	1108.3	1113.1
32.5°	1017.4	1030.4	1052.8	1074.1	1080.0
35°	977.2	989.0	1012.6	1037.5	1044.5
37.5°	931.1	946.5	972.5	997.3	1004.4
40°	882.7	901.6	931.1	957.1	965.4
42.5°	836.6	856.7	886.2	914.6	924.0
45°	788.1	807.0	842.5	874.4	881.5
47.5°	738.5	759.8	797.6	829.5	841.3
50°	688.9	711.3	751.5	784.6	791.7
52.5°	639.3	662.9	705.4	740.9	744.4
55°	587.3	613.3	658.2	692.4	699.5
57.5°	540.0	562.4	610.9	646.3	654.6
60°	488.0	512.8	564.8	597.9	608.5
62.5°	438.4	464.4	518.7	551.8	561.3
65°	386.4	415.9	469.1	508.1	517.5
67.5°	341.5	369.8	426.6	464.4	473.8
70°	289.5	321.4	381.7	420.7	430.1
72.5°	244.6	277.7	337.9	375.8	389.9
75°	196.1	234.0	294.2	334.4	343.8
77.5°	148.9	192.6	254.0	284.8	284.8
80°	106.3	152.4	209.1	223.3	225.7
82.5°	69.7	114.6	154.8	153.6	153.6
85°	40.2	74.4	92.2	89.8	89.8
87.5°	15.4	30.7	33.1	33.1	31.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)