

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: P310089

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CA08-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: P310089  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-45HE-UNV-L82765-RDP-CA08-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC 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**

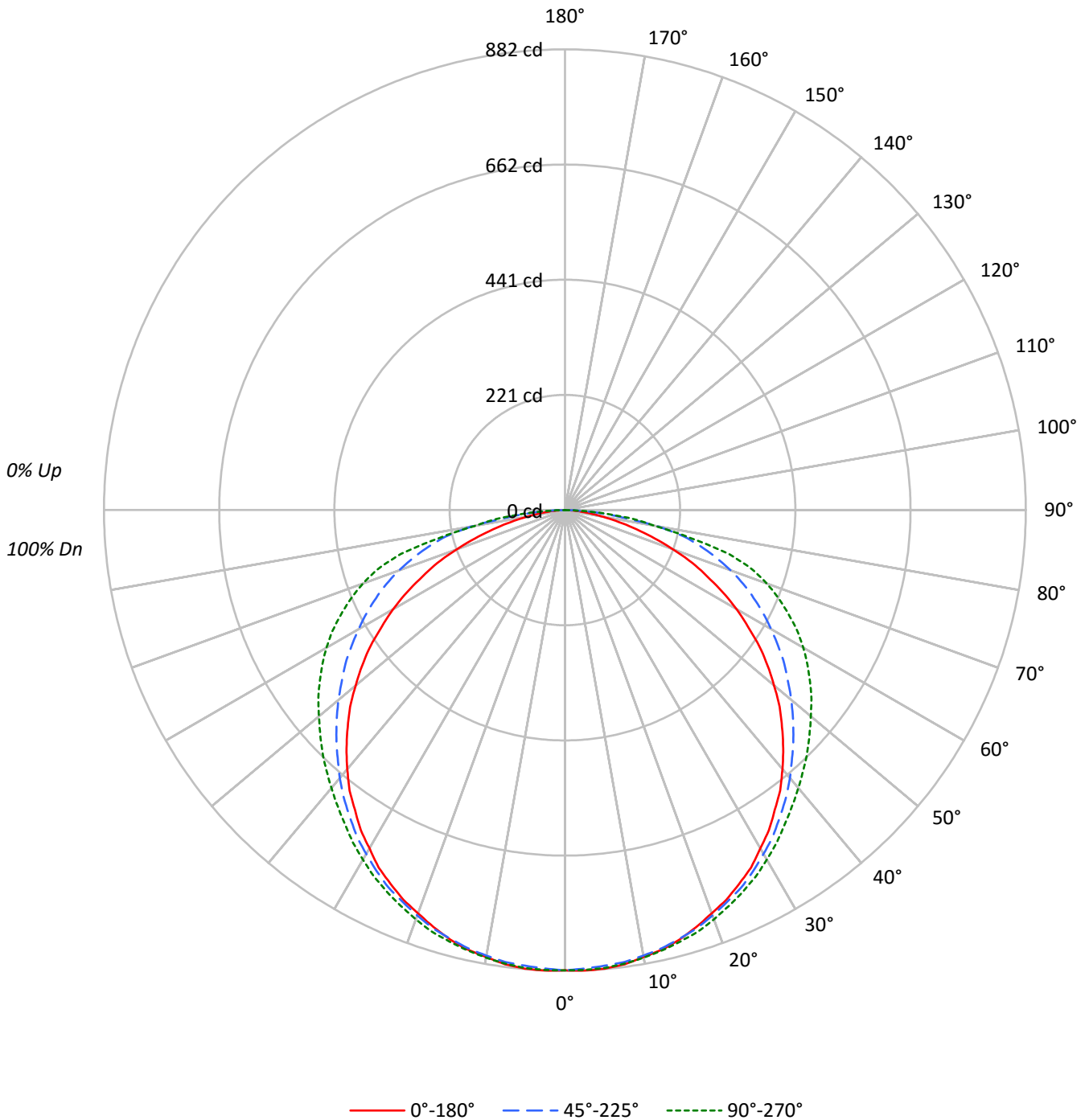
Lumens per Lamp: N/A  
Luminaire Lumens: 2802.0 lumens  
Efficiency: N/A  
Efficacy: 81.5 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.4  
Input Voltage (V): NR  
Input Current (A<sub>in</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	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	1186	1186	1186
5°	1190	1183	1188
10°	1187	1183	1189
15°	1185	1183	1191
20°	1176	1182	1194
25°	1172	1184	1197
30°	1162	1181	1200
35°	1151	1178	1205
40°	1138	1177	1221
45°	1119	1177	1248
50°	1094	1184	1286
55°	1066	1203	1343
60°	1021	1227	1417
65°	956	1270	1504
70°	869	1328	1618
75°	737	1402	1691
80°	582	1411	1368
85°	429	1073	1201



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.6	3.0
10°-20°	240.6	8.6
20°-30°	367.9	13.1
30°-40°	449.7	16.0
40°-50°	479.3	17.1
50°-60°	458.3	16.4
60°-70°	388.2	13.9
70°-80°	260.9	9.3
80°-90°	73.6	2.6
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°	692.0	24.7
0°-40°	1141.7	40.7
0°-60°	2079.3	74.2
0°-90°	2802.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2802.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	881	881	881	881	881	
5°	881	880	876	880	880	84
15°	851	851	849	856	855	240
25°	789	792	798	805	806	364
35°	700	706	717	731	734	439
45°	588	598	618	645	656	453
55°	454	471	513	553	573	405
65°	300	331	399	452	472	298
75°	142	193	270	316	325	152
85°	28	57	70	75	78	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	881.1	881.1	881.1	881.1	881.1
2.5°	882.5	882.5	878.4	881.1	881.1
5°	881.1	879.8	875.6	879.8	879.8
7.5°	877.0	875.6	872.8	877.0	875.6
10°	868.6	868.6	865.9	870.0	870.0
12.5°	861.7	860.3	858.9	864.5	863.1
15°	850.6	850.6	849.2	856.1	854.7
17.5°	836.7	838.1	839.5	845.0	846.4
20°	821.4	824.2	825.6	833.9	833.9
22.5°	807.5	808.9	811.7	820.0	820.0
25°	789.4	792.2	797.8	804.7	806.1
27.5°	771.4	772.7	779.7	789.4	790.8
30°	747.7	751.9	760.2	771.4	772.7
32.5°	726.9	731.0	740.8	751.9	754.7
35°	700.5	706.0	717.1	731.0	733.8
37.5°	676.8	681.0	694.9	710.2	714.4
40°	647.7	656.0	669.9	688.0	694.9
42.5°	618.5	626.8	643.5	667.1	675.5
45°	587.9	597.6	618.5	644.9	656.0
47.5°	557.3	568.4	592.1	622.6	635.1
50°	522.6	536.5	565.7	600.4	614.3
52.5°	489.2	505.9	537.9	576.8	594.8
55°	454.5	471.2	512.8	553.2	572.6
57.5°	415.6	437.8	483.7	529.5	550.4
60°	379.4	400.3	455.9	505.9	526.7
62.5°	340.5	368.3	428.1	480.9	501.7
65°	300.2	330.8	398.9	451.7	472.5
67.5°	264.1	297.4	369.7	422.5	443.4
70°	221.0	262.7	337.7	390.5	411.4
72.5°	180.7	226.5	304.4	355.8	375.3
75°	141.8	193.2	269.6	315.5	325.2
77.5°	105.6	159.8	233.5	252.9	246.0
80°	75.1	127.9	182.1	172.3	176.5
82.5°	48.6	97.3	112.6	127.9	132.0
85°	27.8	57.0	69.5	75.1	77.8
87.5°	12.5	20.8	27.8	27.8	26.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)