

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: P310315

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CA08-W2A-U-5000K**

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: P310315  
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: 24FCZ2-60HE-UNV-L82765-RDP-CA08-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET  
Light Source: (336) 5000K 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**

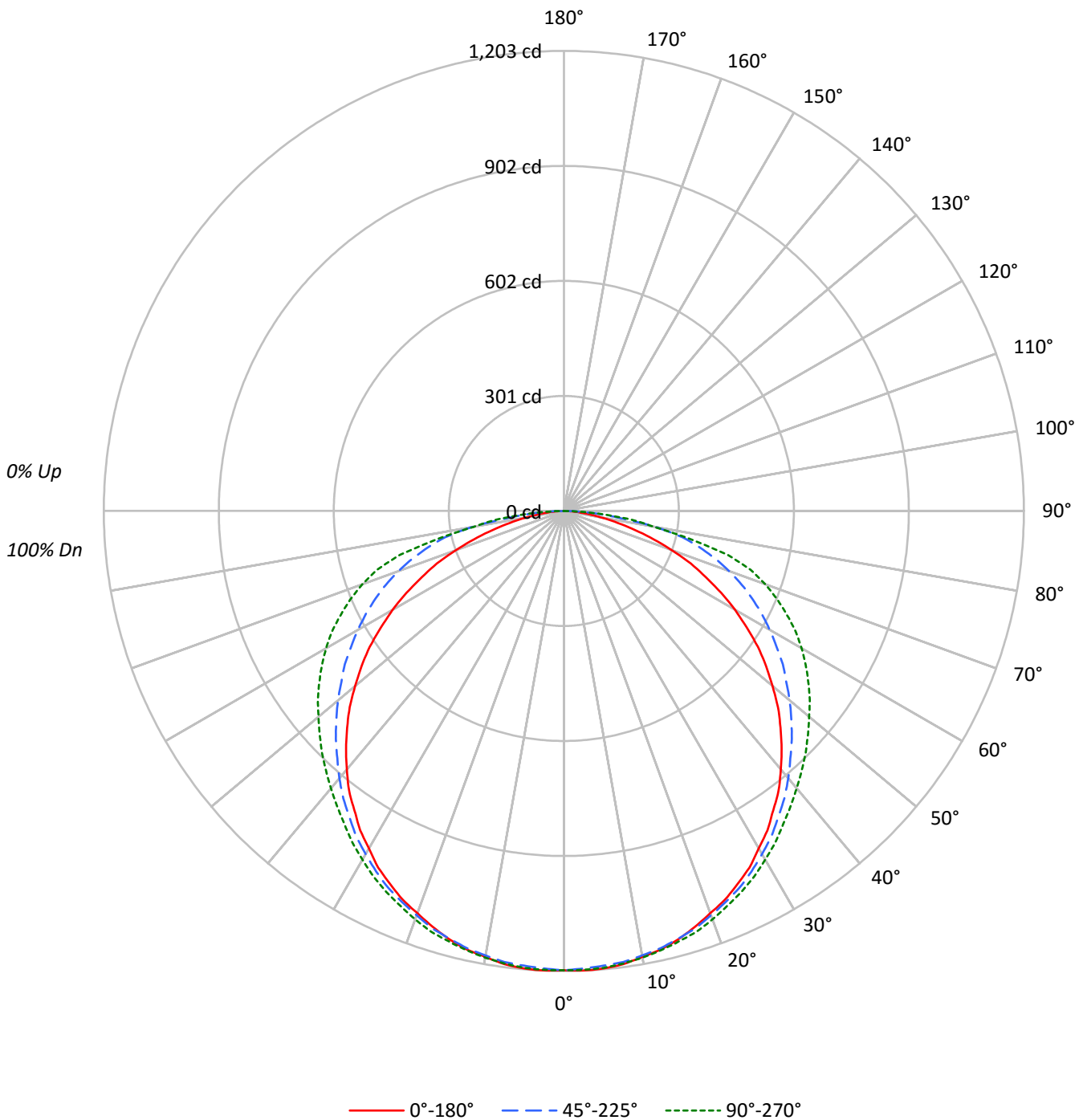
Lumens per Lamp: N/A  
Luminaire Lumens: 3819.0 lumens  
Efficiency: N/A  
Efficacy: 78.4 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 48.7  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1616	1616	1616
5°	1622	1612	1620
10°	1617	1612	1620
15°	1615	1612	1623
20°	1603	1611	1627
25°	1597	1614	1631
30°	1583	1610	1636
35°	1568	1605	1643
40°	1550	1604	1663
45°	1525	1604	1701
50°	1491	1614	1753
55°	1453	1640	1831
60°	1392	1672	1932
65°	1303	1731	2051
70°	1185	1811	2206
75°	1004	1910	2305
80°	793	1922	1864
85°	585	1462	1638



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.9	3.0
10°-20°	327.9	8.6
20°-30°	501.4	13.1
30°-40°	612.9	16.0
40°-50°	653.3	17.1
50°-60°	624.6	16.4
60°-70°	529.1	13.9
70°-80°	355.6	9.3
80°-90°	100.3	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°	943.2	24.7
0°-40°	1556.1	40.7
0°-60°	2833.9	74.2
0°-90°	3819.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3819.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1201	1201	1201	1201	1201	
5°	1201	1199	1193	1199	1199	114
15°	1159	1159	1157	1167	1165	327
25°	1076	1080	1087	1097	1099	496
35°	955	962	977	996	1000	598
45°	801	814	843	879	894	618
55°	619	642	699	754	780	552
65°	409	451	544	616	644	406
75°	193	263	368	430	443	207
85°	38	78	95	102	106	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1201.0	1201.0	1201.0	1201.0	1201.0
2.5°	1202.9	1202.9	1197.2	1201.0	1201.0
5°	1201.0	1199.1	1193.4	1199.1	1199.1
7.5°	1195.3	1193.4	1189.6	1195.3	1193.4
10°	1183.9	1183.9	1180.1	1185.8	1185.8
12.5°	1174.4	1172.6	1170.7	1178.2	1176.3
15°	1159.3	1159.3	1157.4	1166.9	1165.0
17.5°	1140.3	1142.2	1144.1	1151.7	1153.6
20°	1119.5	1123.3	1125.2	1136.6	1136.6
22.5°	1100.6	1102.5	1106.3	1117.6	1117.6
25°	1075.9	1079.7	1087.3	1096.8	1098.7
27.5°	1051.3	1053.2	1062.7	1075.9	1077.8
30°	1019.1	1024.8	1036.2	1051.3	1053.2
32.5°	990.7	996.4	1009.6	1024.8	1028.6
35°	954.7	962.3	977.4	996.4	1000.2
37.5°	922.5	928.2	947.1	968.0	973.7
40°	882.7	894.1	913.0	937.7	947.1
42.5°	842.9	854.3	877.0	909.2	920.6
45°	801.3	814.5	842.9	878.9	894.1
47.5°	759.6	774.8	807.0	848.6	865.7
50°	712.2	731.2	771.0	818.3	837.3
52.5°	666.8	689.5	733.1	786.1	810.7
55°	619.4	642.2	699.0	753.9	780.4
57.5°	566.4	596.7	659.2	721.7	750.1
60°	517.1	545.5	621.3	689.5	717.9
62.5°	464.1	502.0	583.4	655.4	683.8
65°	409.2	450.8	543.7	615.6	644.1
67.5°	359.9	405.4	503.9	575.9	604.3
70°	301.2	358.0	460.3	532.3	560.7
72.5°	246.3	308.8	414.8	484.9	511.5
75°	193.2	263.3	367.5	430.0	443.3
77.5°	144.0	217.8	318.2	344.8	335.3
80°	102.3	174.3	248.1	234.9	240.6
82.5°	66.3	132.6	153.4	174.3	180.0
85°	37.9	77.7	94.7	102.3	106.1
87.5°	17.0	28.4	37.9	37.9	36.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)