

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: P309664

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP187-W2A-U-3500K**

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: P309664  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
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-HRP-CP187-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 3500K 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**

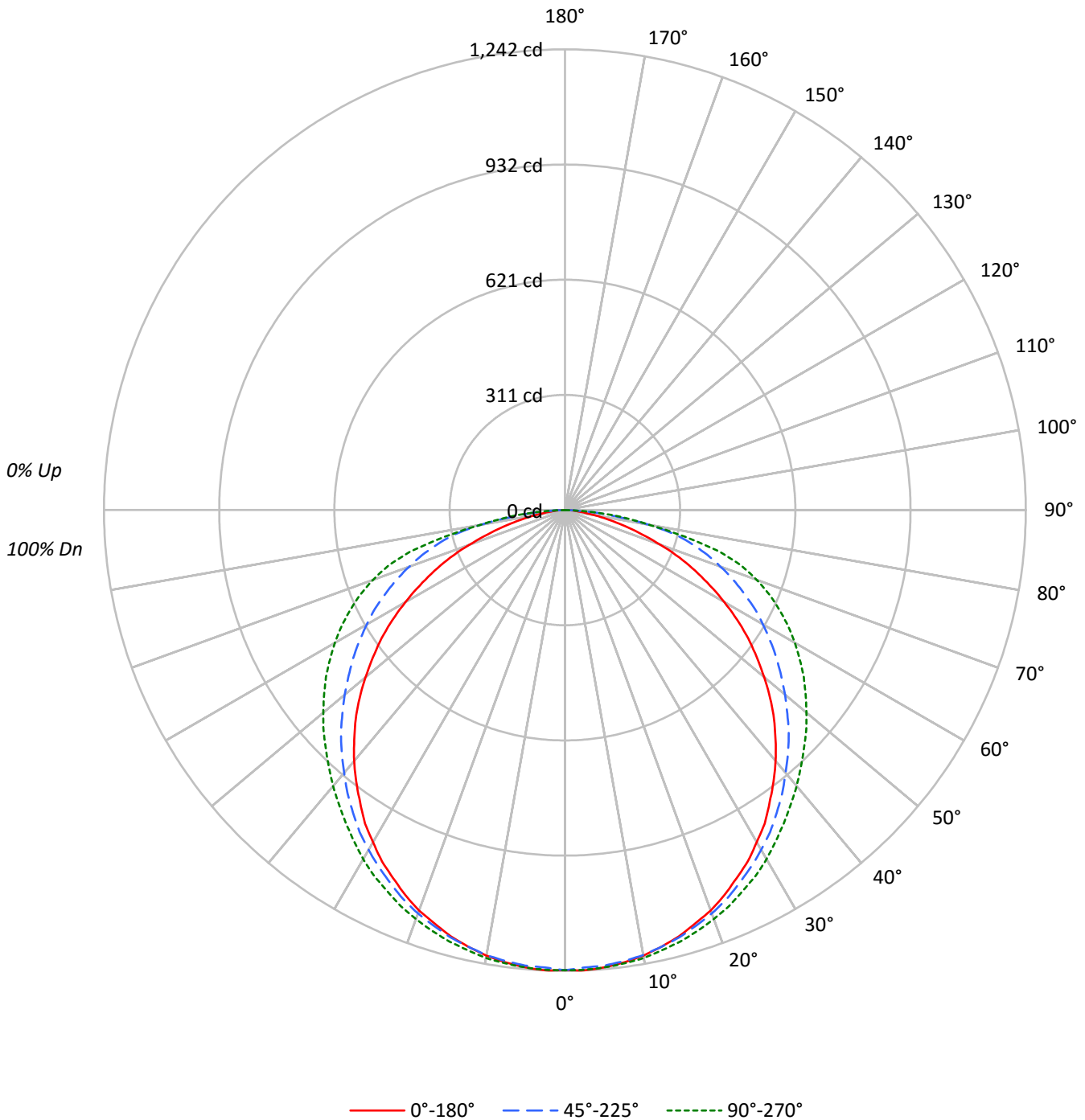
Lumens per Lamp: N/A  
Luminaire Lumens: 3823.0 lumens  
Efficiency: N/A  
Efficacy: 80.0 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: 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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

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

	0°	45°	90°
0°	1669	1669	1669
5°	1671	1665	1671
10°	1666	1664	1675
15°	1656	1661	1677
20°	1645	1657	1680
25°	1625	1649	1682
30°	1606	1644	1688
35°	1580	1635	1690
40°	1552	1625	1706
45°	1517	1623	1733
50°	1467	1621	1779
55°	1415	1633	1843
60°	1335	1658	1925
65°	1233	1697	2033
70°	1077	1757	2166
75°	874	1847	2238
80°	645	1811	1811
85°	494	1334	1507



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.5	3.1
10°-20°	337.4	8.8
20°-30°	513.7	13.4
30°-40°	623.7	16.3
40°-50°	659.0	17.2
50°-60°	621.8	16.3
60°-70°	517.0	13.5
70°-80°	340.1	8.9
80°-90°	92.7	2.4
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°	968.6	25.3
0°-40°	1592.3	41.7
0°-60°	2873.1	75.2
0°-90°	3823.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3823.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1240	1240	1240	1240	1240	
5°	1237	1237	1232	1237	1237	118
15°	1189	1191	1192	1204	1204	335
25°	1095	1101	1111	1130	1133	505
35°	962	973	996	1021	1029	602
45°	797	813	853	895	911	614
55°	603	629	696	762	786	537
65°	387	432	533	611	639	383
75°	168	245	355	421	430	181
85°	32	70	86	96	98	39
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1240.4	1240.4	1240.4	1240.4	1240.4
2.5°	1242.0	1240.4	1234.0	1240.4	1240.4
5°	1237.2	1237.2	1232.4	1237.2	1237.2
7.5°	1229.2	1229.2	1226.0	1232.4	1232.4
10°	1219.6	1219.6	1218.0	1226.0	1226.0
12.5°	1205.2	1206.8	1205.2	1214.8	1214.8
15°	1189.2	1190.8	1192.4	1203.6	1203.6
17.5°	1168.4	1171.6	1174.8	1187.6	1189.2
20°	1149.1	1150.7	1157.2	1171.6	1173.2
22.5°	1123.5	1128.3	1136.3	1150.7	1155.5
25°	1094.7	1101.1	1110.7	1129.9	1133.1
27.5°	1067.5	1072.3	1085.1	1105.9	1112.3
30°	1033.9	1041.9	1057.9	1078.7	1086.7
32.5°	1001.9	1009.9	1029.1	1051.5	1057.9
35°	961.9	973.1	995.5	1021.1	1029.1
37.5°	923.5	934.7	961.9	990.7	1000.3
40°	883.5	896.3	925.1	958.7	971.5
42.5°	840.3	857.9	889.9	926.7	941.1
45°	797.0	813.0	853.1	894.7	910.7
47.5°	750.6	769.8	813.0	862.7	881.9
50°	701.0	725.0	774.6	829.1	849.9
52.5°	651.4	678.6	734.6	795.4	817.8
55°	603.4	629.0	696.2	761.8	785.8
57.5°	550.6	582.6	656.2	726.6	750.6
60°	496.2	531.4	616.2	689.8	715.4
62.5°	441.7	481.7	577.8	651.4	678.6
65°	387.3	432.1	533.0	611.4	638.6
67.5°	334.5	384.1	491.3	569.8	597.0
70°	273.7	336.1	446.5	523.4	550.6
72.5°	217.7	289.7	403.3	475.3	499.4
75°	168.1	244.9	355.3	420.9	430.5
77.5°	123.2	200.1	305.7	328.1	329.7
80°	83.2	160.0	233.7	230.5	233.7
82.5°	54.4	120.0	147.2	164.8	166.5
85°	32.0	70.4	86.4	96.0	97.6
87.5°	16.0	24.0	30.4	32.0	35.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)