

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: P309667

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP187-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: P309667  
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-5000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"  
POLYCARB 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**

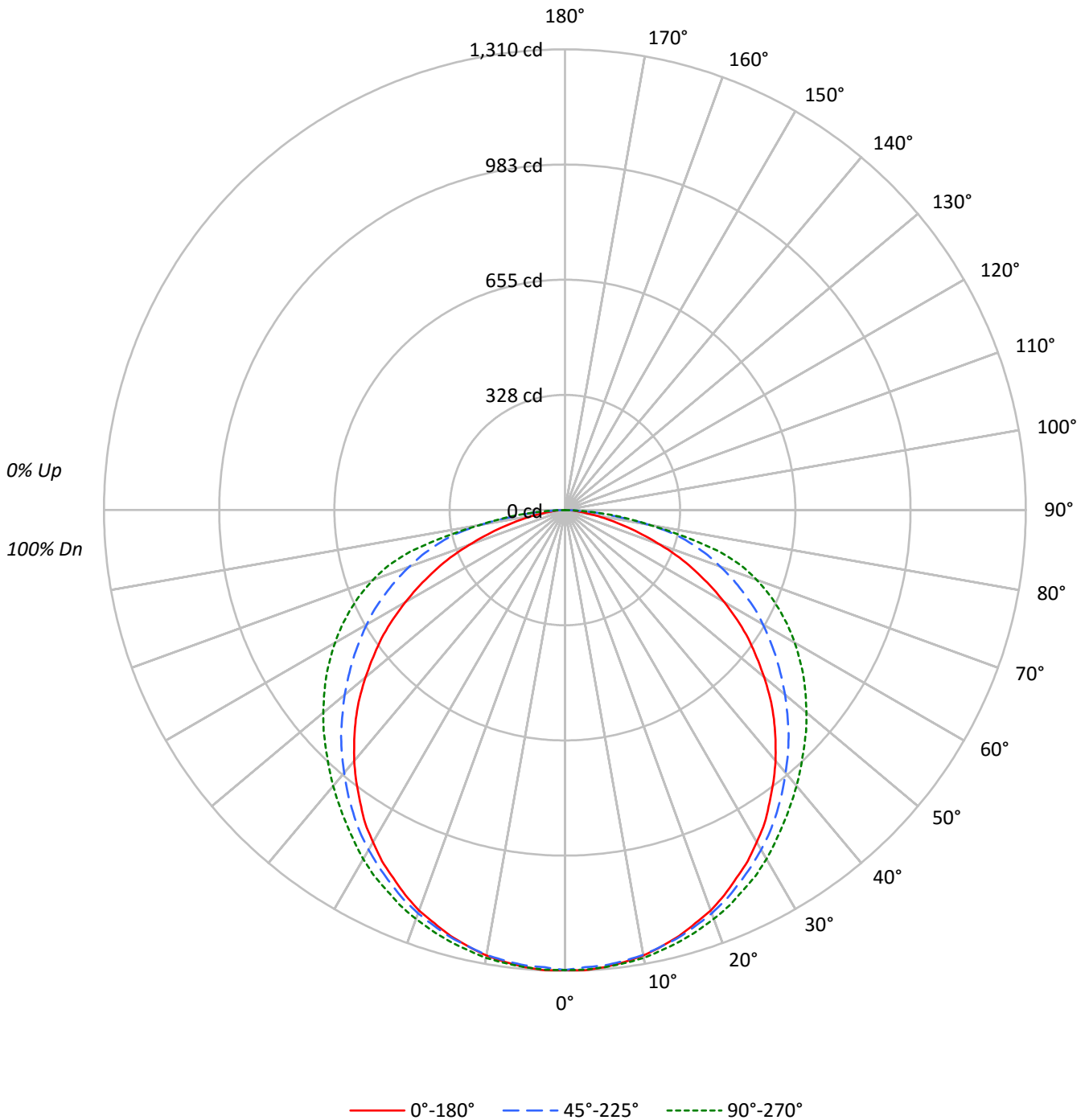
Lumens per Lamp: N/A  
Luminaire Lumens: 4031.0 lumens  
Efficiency: N/A  
Efficacy: 82.8 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 48.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
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°	1760	1760	1760
5°	1762	1755	1762
10°	1757	1755	1766
15°	1747	1751	1768
20°	1735	1747	1771
25°	1714	1739	1774
30°	1694	1733	1780
35°	1666	1724	1782
40°	1636	1713	1799
45°	1599	1712	1827
50°	1547	1710	1876
55°	1492	1722	1944
60°	1408	1748	2030
65°	1300	1789	2144
70°	1135	1852	2284
75°	921	1947	2360
80°	680	1909	1909
85°	522	1406	1589



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.9	3.1
10°-20°	355.8	8.8
20°-30°	541.6	13.4
30°-40°	657.7	16.3
40°-50°	694.8	17.2
50°-60°	655.6	16.3
60°-70°	545.1	13.5
70°-80°	358.6	8.9
80°-90°	97.8	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°	1021.3	25.3
0°-40°	1679.0	41.7
0°-60°	3029.5	75.2
0°-90°	4031.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4031.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1308	1308	1308	1308	1308	
5°	1304	1304	1299	1304	1304	124
15°	1254	1256	1257	1269	1269	354
25°	1154	1161	1171	1191	1195	532
35°	1014	1026	1050	1077	1085	635
45°	840	857	900	943	960	647
55°	636	663	734	803	829	567
65°	408	456	562	645	673	404
75°	177	258	375	444	454	191
85°	34	74	91	101	103	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1307.9	1307.9	1307.9	1307.9	1307.9
2.5°	1309.5	1307.9	1301.1	1307.9	1307.9
5°	1304.5	1304.5	1299.4	1304.5	1304.5
7.5°	1296.0	1296.0	1292.7	1299.4	1299.4
10°	1285.9	1285.9	1284.2	1292.7	1292.7
12.5°	1270.7	1272.4	1270.7	1280.9	1280.9
15°	1253.9	1255.5	1257.2	1269.0	1269.0
17.5°	1231.9	1235.3	1238.7	1252.2	1253.9
20°	1211.7	1213.4	1220.1	1235.3	1237.0
22.5°	1184.7	1189.7	1198.2	1213.4	1218.4
25°	1154.3	1161.0	1171.2	1191.4	1194.8
27.5°	1125.6	1130.7	1144.2	1166.1	1172.9
30°	1090.2	1098.6	1115.5	1137.4	1145.9
32.5°	1056.4	1064.9	1085.1	1108.7	1115.5
35°	1014.2	1026.0	1049.7	1076.7	1085.1
37.5°	973.7	985.5	1014.2	1044.6	1054.7
40°	931.5	945.0	975.4	1010.9	1024.4
42.5°	886.0	904.5	938.3	977.1	992.3
45°	840.4	857.3	899.5	943.3	960.2
47.5°	791.5	811.7	857.3	909.6	929.8
50°	739.2	764.5	816.8	874.2	896.1
52.5°	686.8	715.5	774.6	838.7	862.3
55°	636.2	663.2	734.1	803.3	828.6
57.5°	580.5	614.3	691.9	766.2	791.5
60°	523.1	560.3	649.7	727.3	754.3
62.5°	465.8	508.0	609.2	686.8	715.5
65°	408.4	455.6	562.0	644.6	673.3
67.5°	352.7	405.0	518.1	600.8	629.5
70°	288.6	354.4	470.8	551.8	580.5
72.5°	229.5	305.4	425.3	501.2	526.5
75°	177.2	258.2	374.6	443.8	454.0
77.5°	129.9	210.9	322.3	346.0	347.6
80°	87.8	168.8	246.4	243.0	246.4
82.5°	57.4	126.6	155.3	173.8	175.5
85°	33.8	74.3	91.1	101.3	102.9
87.5°	16.9	25.3	32.1	33.8	37.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)