

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: P309668

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP187-W2A-U-5500K**

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: P309668  
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-5500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 5500K 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: 4070.0 lumens  
Efficiency: N/A  
Efficacy: 83.2 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

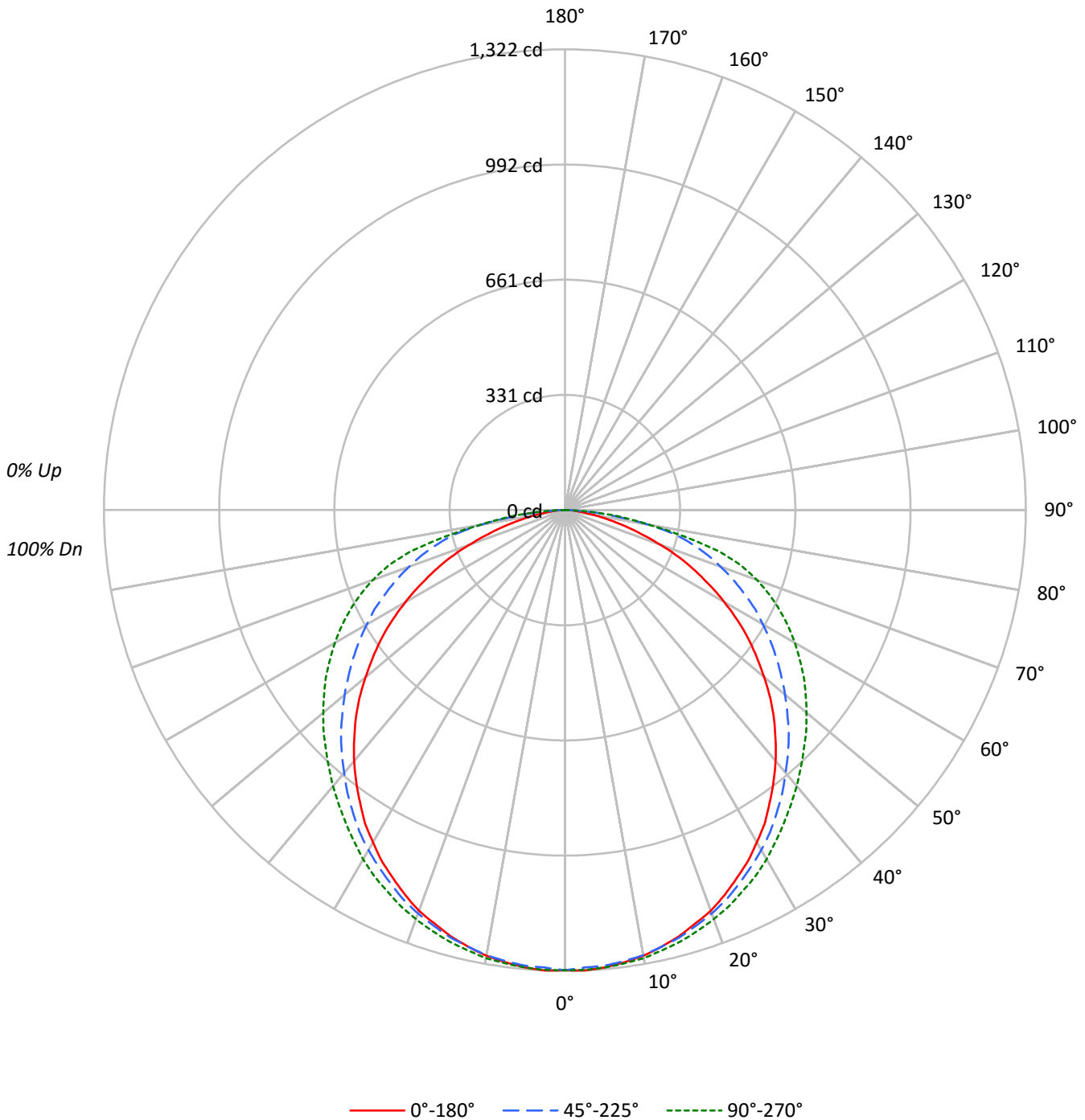
Input Watts (W): 48.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1777	1777	1777
5°	1779	1772	1779
10°	1774	1772	1783
15°	1763	1768	1785
20°	1752	1764	1788
25°	1730	1756	1791
30°	1710	1750	1797
35°	1682	1741	1800
40°	1652	1730	1817
45°	1615	1728	1845
50°	1562	1726	1894
55°	1507	1739	1962
60°	1421	1765	2049
65°	1313	1806	2165
70°	1146	1870	2306
75°	930	1967	2383
80°	687	1928	1928
85°	526	1420	1604



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.1	3.1
10°-20°	359.2	8.8
20°-30°	546.9	13.4
30°-40°	664.0	16.3
40°-50°	701.6	17.2
50°-60°	662.0	16.3
60°-70°	550.4	13.5
70°-80°	362.1	8.9
80°-90°	98.7	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°	1031.2	25.3
0°-40°	1695.2	41.7
0°-60°	3058.8	75.2
0°-90°	4070.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4070.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1320	1320	1320	1320	1320	
5°	1317	1317	1312	1317	1317	125
15°	1266	1268	1269	1281	1281	357
25°	1166	1172	1182	1203	1206	538
35°	1024	1036	1060	1087	1096	641
45°	848	866	908	952	970	653
55°	642	670	741	811	837	572
65°	412	460	567	651	680	408
75°	179	261	378	448	458	193
85°	34	75	92	102	104	42
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1320.5	1320.5	1320.5	1320.5	1320.5
2.5°	1322.2	1320.5	1313.7	1320.5	1320.5
5°	1317.1	1317.1	1312.0	1317.1	1317.1
7.5°	1308.6	1308.6	1305.2	1312.0	1312.0
10°	1298.4	1298.4	1296.7	1305.2	1305.2
12.5°	1283.0	1284.7	1283.0	1293.3	1293.3
15°	1266.0	1267.7	1269.4	1281.3	1281.3
17.5°	1243.8	1247.2	1250.7	1264.3	1266.0
20°	1223.4	1225.1	1231.9	1247.2	1249.0
22.5°	1196.1	1201.2	1209.8	1225.1	1230.2
25°	1165.5	1172.3	1182.5	1202.9	1206.4
27.5°	1136.5	1141.6	1155.2	1177.4	1184.2
30°	1100.7	1109.2	1126.3	1148.4	1156.9
32.5°	1066.6	1075.2	1095.6	1119.5	1126.3
35°	1024.0	1036.0	1059.8	1087.1	1095.6
37.5°	983.1	995.1	1024.0	1054.7	1064.9
40°	940.5	954.2	984.8	1020.6	1034.3
42.5°	894.5	913.3	947.4	986.6	1001.9
45°	848.5	865.6	908.2	952.5	969.5
47.5°	799.1	819.6	865.6	918.4	938.8
50°	746.3	771.9	824.7	882.6	904.8
52.5°	693.5	722.4	782.1	846.8	870.7
55°	642.4	669.6	741.2	811.1	836.6
57.5°	586.1	620.2	698.6	773.6	799.1
60°	528.2	565.7	656.0	734.4	761.6
62.5°	470.3	512.9	615.1	693.5	722.4
65°	412.3	460.1	567.4	650.9	679.9
67.5°	356.1	408.9	523.1	606.6	635.6
70°	291.4	357.8	475.4	557.2	586.1
72.5°	231.7	308.4	429.4	506.1	531.6
75°	178.9	260.7	378.3	448.1	458.3
77.5°	131.2	213.0	325.4	349.3	351.0
80°	88.6	170.4	248.8	245.4	248.8
82.5°	57.9	127.8	156.8	175.5	177.2
85°	34.1	75.0	92.0	102.2	103.9
87.5°	17.0	25.6	32.4	34.1	37.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)