

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: P313323

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-HRP-CA125-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: P313323  
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-L83050-HRP-CA125-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" 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**

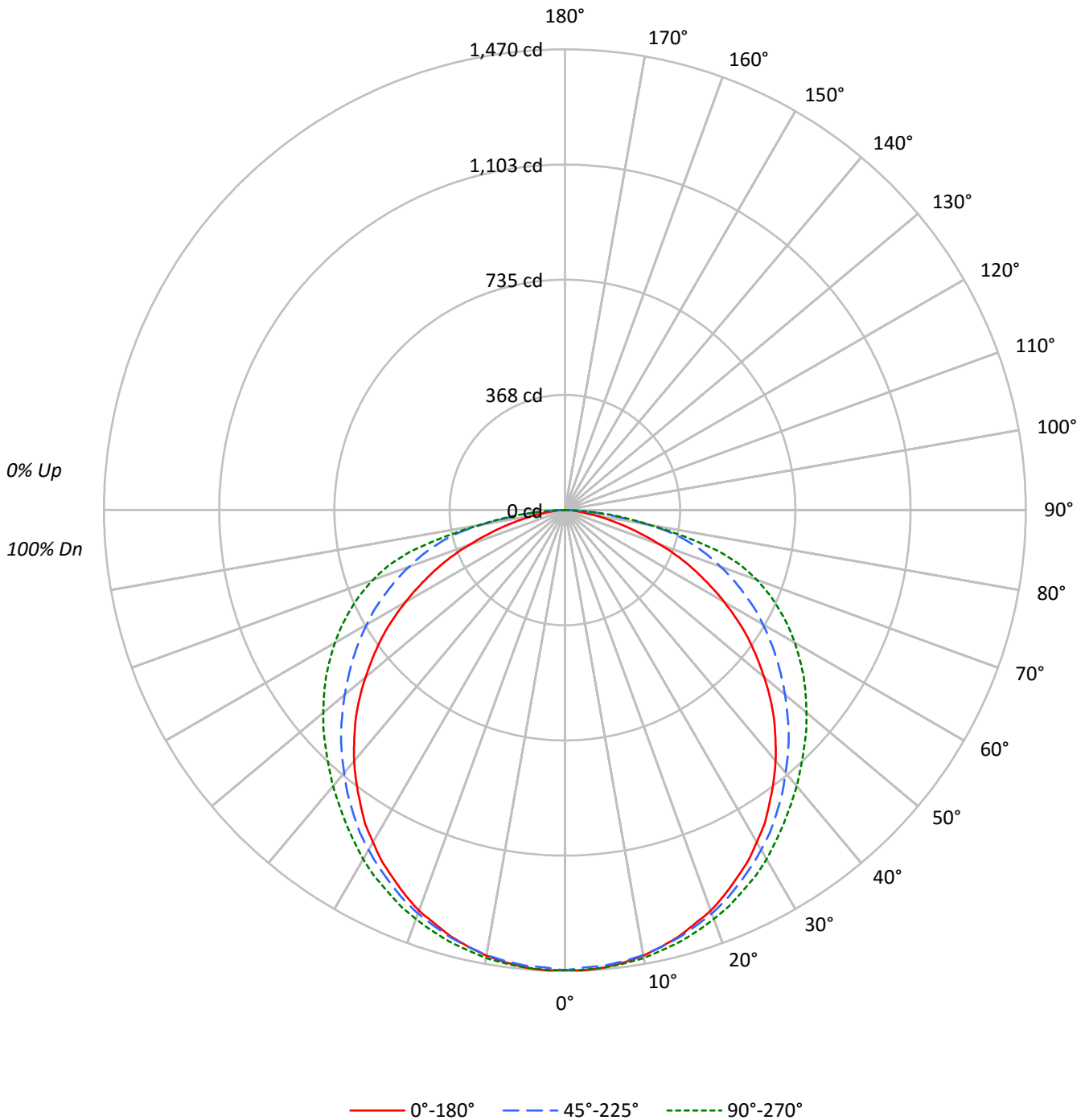
Lumens per Lamp: N/A  
Luminaire Lumens: 4525.0 lumens  
Efficiency: N/A  
Efficacy: 90.7 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 49.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	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°	1975	1975	1975
5°	1978	1970	1978
10°	1972	1970	1983
15°	1961	1966	1984
20°	1948	1961	1988
25°	1924	1952	1991
30°	1901	1945	1998
35°	1870	1935	2001
40°	1837	1923	2020
45°	1795	1921	2051
50°	1737	1919	2106
55°	1675	1933	2182
60°	1580	1963	2279
65°	1459	2008	2407
70°	1274	2079	2564
75°	1034	2187	2649
80°	763	2143	2143
85°	585	1579	1785



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.1	3.1
10°-20°	399.4	8.8
20°-30°	608.0	13.4
30°-40°	738.3	16.3
40°-50°	780.0	17.2
50°-60°	736.0	16.3
60°-70°	611.9	13.5
70°-80°	402.6	8.9
80°-90°	109.8	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°	1146.5	25.3
0°-40°	1884.7	41.7
0°-60°	3400.7	75.2
0°-90°	4525.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4525.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1468	1468	1468	1468	1468	
5°	1464	1464	1459	1464	1464	139
15°	1408	1409	1411	1425	1425	397
25°	1296	1303	1315	1337	1341	598
35°	1138	1152	1178	1209	1218	713
45°	943	962	1010	1059	1078	727
55°	714	744	824	902	930	636
65°	458	512	631	724	756	453
75°	199	290	421	498	510	214
85°	38	83	102	114	116	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1468.1	1468.1	1468.1	1468.1	1468.1
2.5°	1470.0	1468.1	1460.6	1468.1	1468.1
5°	1464.4	1464.4	1458.7	1464.4	1464.4
7.5°	1454.9	1454.9	1451.1	1458.7	1458.7
10°	1443.5	1443.5	1441.6	1451.1	1451.1
12.5°	1426.5	1428.4	1426.5	1437.8	1437.8
15°	1407.5	1409.4	1411.3	1424.6	1424.6
17.5°	1382.9	1386.7	1390.5	1405.6	1407.5
20°	1360.2	1362.1	1369.6	1386.7	1388.6
22.5°	1329.9	1335.5	1345.0	1362.1	1367.7
25°	1295.8	1303.3	1314.7	1337.4	1341.2
27.5°	1263.5	1269.2	1284.4	1309.0	1316.6
30°	1223.8	1233.2	1252.2	1276.8	1286.3
32.5°	1185.9	1195.3	1218.1	1244.6	1252.2
35°	1138.5	1151.8	1178.3	1208.6	1218.1
37.5°	1093.1	1106.3	1138.5	1172.6	1184.0
40°	1045.7	1060.8	1094.9	1134.7	1149.9
42.5°	994.5	1015.4	1053.3	1096.8	1113.9
45°	943.4	962.3	1009.7	1059.0	1077.9
47.5°	888.5	911.2	962.3	1021.1	1043.8
50°	829.7	858.2	916.9	981.3	1005.9
52.5°	771.0	803.2	869.5	941.5	968.0
55°	714.2	744.5	824.1	901.7	930.1
57.5°	651.7	689.6	776.7	860.0	888.5
60°	587.3	628.9	729.3	816.5	846.8
62.5°	522.8	570.2	683.9	771.0	803.2
65°	458.4	511.5	630.8	723.7	755.9
67.5°	395.9	454.6	581.6	674.4	706.6
70°	323.9	397.8	528.5	619.5	651.7
72.5°	257.6	342.9	477.4	562.6	591.0
75°	198.9	289.8	420.6	498.2	509.6
77.5°	145.9	236.8	361.8	388.3	390.2
80°	98.5	189.4	276.6	272.8	276.6
82.5°	64.4	142.1	174.3	195.1	197.0
85°	37.9	83.4	102.3	113.7	115.6
87.5°	18.9	28.4	36.0	37.9	41.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)