

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: P311003

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CP125-W2A-U-2700K**

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: P311003  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)  
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-CP125-W2A-U-2700K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" POLYCARB SHEET  
Light Source: (336) 2700K 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**

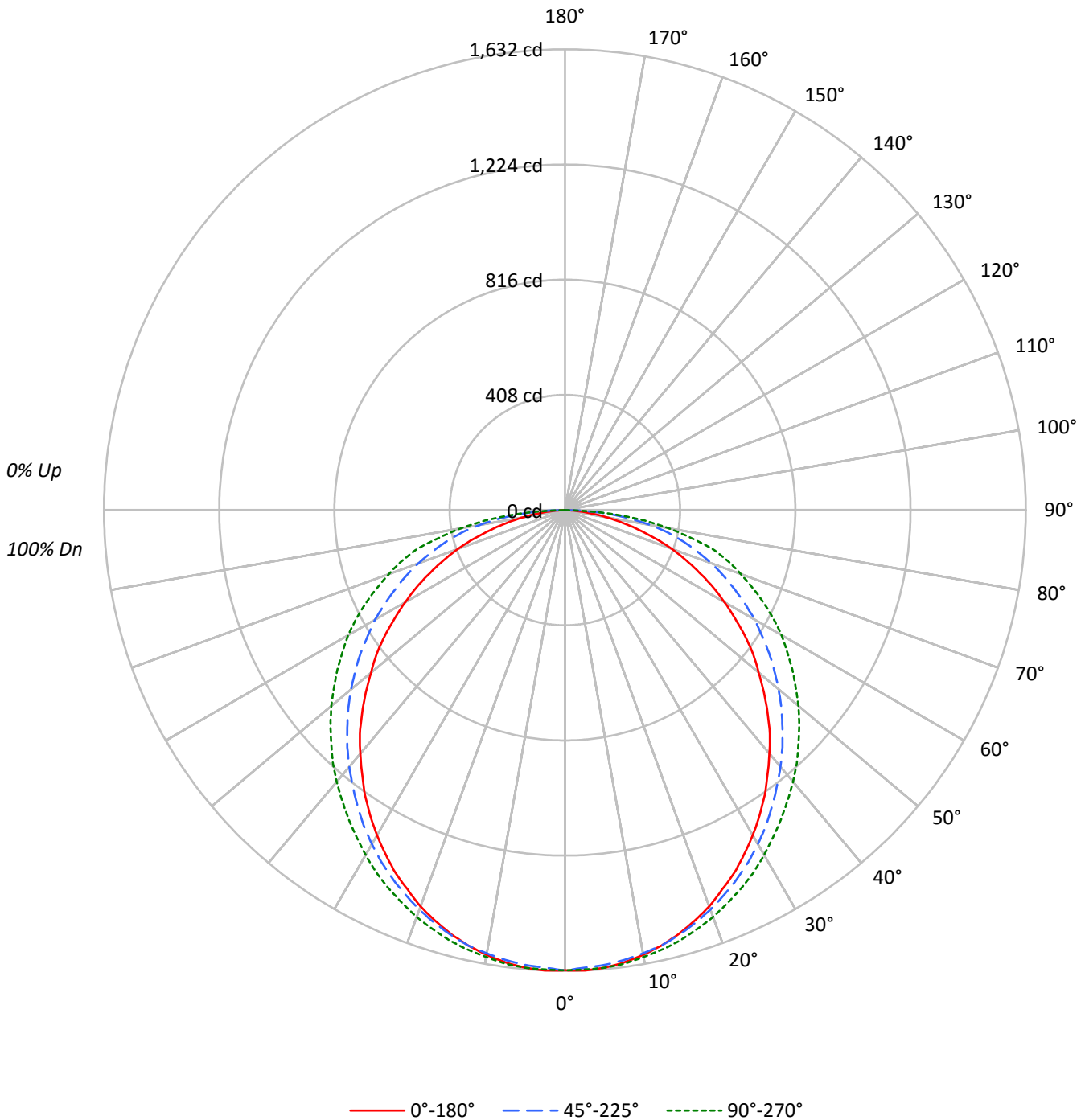
Lumens per Lamp: N/A  
Luminaire Lumens: 4944.0 lumens  
Efficiency: N/A  
Efficacy: 103.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.6  
Input Voltage (V): NR  
Input Current (A<sub>in</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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

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

	0°	45°	90°
0°	2194	2194	2194
5°	2198	2185	2198
10°	2185	2178	2196
15°	2166	2171	2198
20°	2140	2156	2196
25°	2106	2141	2194
30°	2067	2123	2192
35°	2026	2102	2193
40°	1979	2086	2207
45°	1932	2073	2226
50°	1875	2067	2259
55°	1828	2070	2305
60°	1757	2088	2384
65°	1676	2110	2470
70°	1587	2175	2607
75°	1416	2268	2848
80°	1207	2402	2910
85°	861	2381	2785



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	154.3	3.1
10°-20°	441.2	8.9
20°-30°	666.4	13.5
30°-40°	803.2	16.2
40°-50°	843.2	17.1
50°-60°	788.9	16.0
60°-70°	651.5	13.2
70°-80°	443.9	9.0
80°-90°	151.4	3.1
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°	1261.9	25.5
0°-40°	2065.1	41.8
0°-60°	3697.2	74.8
0°-90°	4944.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4944.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1630	1630	1630	1630	1630	
5°	1627	1626	1617	1627	1627	154
15°	1555	1557	1558	1575	1578	438
25°	1419	1425	1442	1470	1478	653
35°	1234	1247	1280	1322	1335	771
45°	1015	1037	1089	1148	1170	783
55°	779	810	882	955	983	695
65°	526	571	663	746	776	522
75°	272	335	436	518	548	290
85°	56	110	154	174	180	70
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1630.5	1630.5	1630.5	1630.5	1630.5
2.5°	1632.1	1630.5	1622.3	1630.5	1628.8
5°	1627.2	1625.6	1617.4	1627.2	1627.2
7.5°	1615.7	1615.7	1607.5	1619.0	1620.6
10°	1599.3	1599.3	1594.4	1607.5	1607.5
12.5°	1579.6	1579.6	1579.6	1592.8	1594.4
15°	1555.0	1556.7	1558.3	1574.7	1578.0
17.5°	1525.5	1528.8	1533.7	1553.4	1556.7
20°	1494.3	1497.6	1505.8	1528.8	1533.7
22.5°	1455.0	1463.2	1474.7	1500.9	1505.8
25°	1418.9	1425.4	1441.9	1469.7	1477.9
27.5°	1374.6	1384.4	1405.8	1435.3	1446.8
30°	1330.3	1340.1	1366.4	1400.8	1410.7
32.5°	1282.7	1297.5	1325.4	1361.5	1373.0
35°	1233.5	1246.7	1279.5	1322.1	1335.2
37.5°	1179.4	1197.4	1233.5	1279.5	1295.9
40°	1126.9	1146.6	1187.6	1236.8	1256.5
42.5°	1074.4	1094.1	1140.0	1195.8	1215.5
45°	1015.4	1036.7	1089.2	1148.2	1169.6
47.5°	956.3	982.6	1040.0	1102.3	1125.3
50°	895.6	925.1	987.5	1053.1	1079.3
52.5°	841.5	869.4	935.0	1005.5	1030.1
55°	779.2	810.3	882.5	954.7	982.6
57.5°	715.2	749.6	826.7	905.5	933.3
60°	652.9	690.6	775.9	854.6	885.8
62.5°	592.2	629.9	718.5	800.5	831.6
65°	526.5	570.8	662.7	746.4	775.9
67.5°	464.2	511.8	608.6	690.6	720.1
70°	403.5	449.5	552.8	633.2	662.7
72.5°	337.9	390.4	493.7	577.4	608.6
75°	272.3	334.6	436.3	518.3	547.9
77.5°	211.6	275.6	377.3	444.5	459.3
80°	155.8	221.4	310.0	357.6	375.6
82.5°	100.1	165.7	236.2	270.7	285.4
85°	55.8	109.9	154.2	173.9	180.4
87.5°	23.0	47.6	62.3	70.5	70.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)