

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: P309688

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-HRP-CA08-W2A-U-6500K**

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: P309688  
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: 24FCZ2-65HE-UNV-L82765-HRP-CA08-W2A-U-6500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 6500K 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**

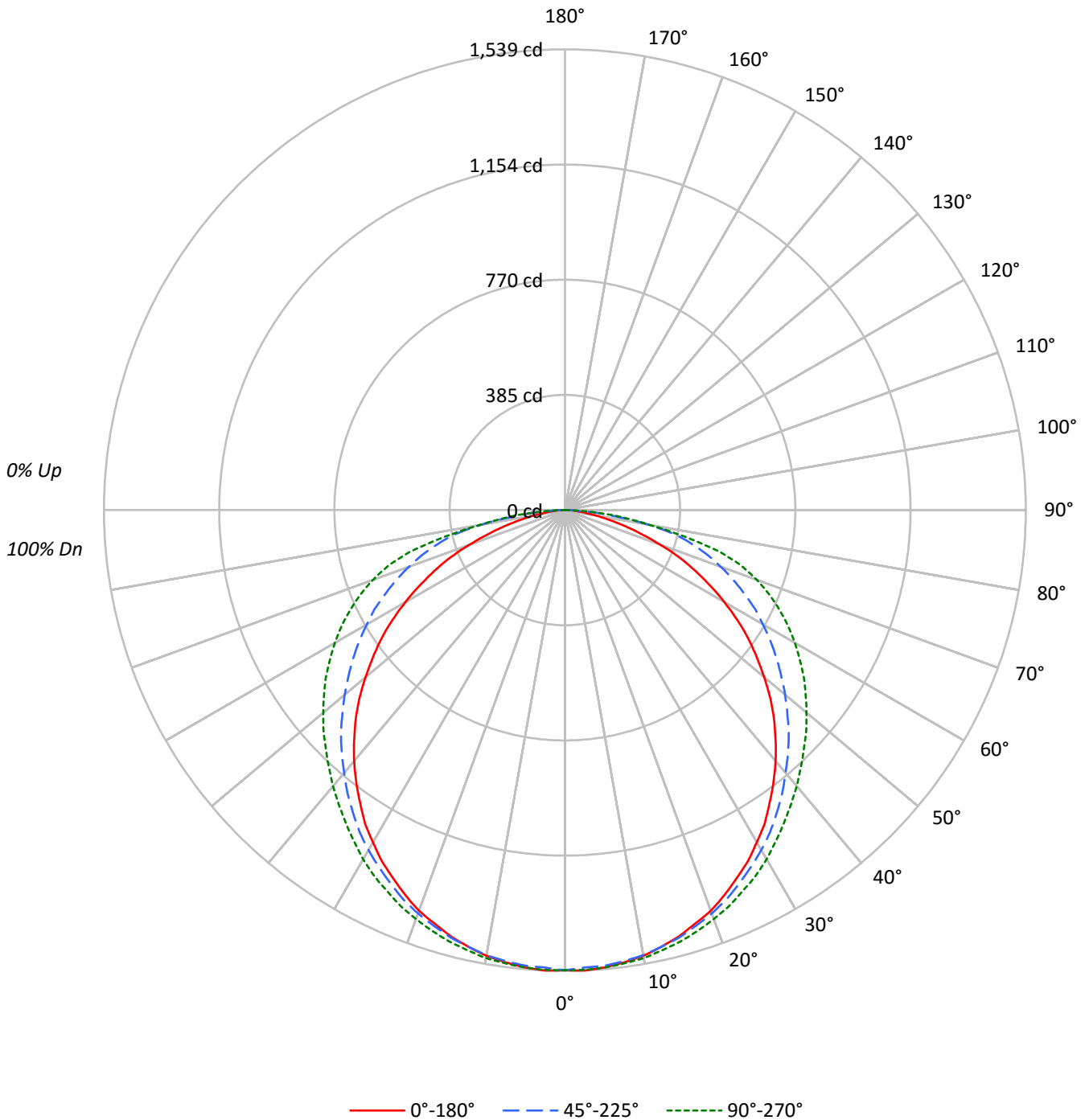
Lumens per Lamp: N/A  
Luminaire Lumens: 4738.0 lumens  
Efficiency: N/A  
Efficacy: 86.3 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 54.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
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°	2068	2068	2068
5°	2071	2063	2071
10°	2065	2062	2076
15°	2053	2058	2078
20°	2039	2053	2082
25°	2014	2044	2085
30°	1991	2037	2092
35°	1958	2027	2095
40°	1923	2014	2115
45°	1880	2012	2148
50°	1819	2009	2205
55°	1754	2024	2285
60°	1655	2055	2386
65°	1528	2103	2520
70°	1334	2177	2684
75°	1083	2289	2774
80°	799	2244	2244
85°	613	1653	1868



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	145.6	3.1
10°-20°	418.2	8.8
20°-30°	636.6	13.4
30°-40°	773.0	16.3
40°-50°	816.7	17.2
50°-60°	770.6	16.3
60°-70°	640.7	13.5
70°-80°	421.6	8.9
80°-90°	114.9	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°	1200.4	25.3
0°-40°	1973.5	41.7
0°-60°	3560.8	75.2
0°-90°	4738.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4738.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1537	1537	1537	1537	1537	
5°	1533	1533	1527	1533	1533	146
15°	1474	1476	1478	1492	1492	416
25°	1357	1365	1377	1400	1404	626
35°	1192	1206	1234	1266	1275	746
45°	988	1008	1057	1109	1129	761
55°	748	780	863	944	974	666
65°	480	536	660	758	791	475
75°	208	304	440	522	534	224
85°	40	87	107	119	121	49
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1537.2	1537.2	1537.2	1537.2	1537.2
2.5°	1539.2	1537.2	1529.3	1537.2	1537.2
5°	1533.3	1533.3	1527.3	1533.3	1533.3
7.5°	1523.4	1523.4	1519.4	1527.3	1527.3
10°	1511.5	1511.5	1509.5	1519.4	1519.4
12.5°	1493.6	1495.6	1493.6	1505.5	1505.5
15°	1473.8	1475.8	1477.7	1491.6	1491.6
17.5°	1448.0	1452.0	1455.9	1471.8	1473.8
20°	1424.2	1426.2	1434.1	1452.0	1453.9
22.5°	1392.4	1398.4	1408.3	1426.2	1432.1
25°	1356.7	1364.7	1376.6	1400.4	1404.4
27.5°	1323.0	1329.0	1344.8	1370.6	1378.6
30°	1281.4	1291.3	1311.1	1336.9	1346.8
32.5°	1241.7	1251.6	1275.4	1303.2	1311.1
35°	1192.1	1206.0	1233.8	1265.5	1275.4
37.5°	1144.5	1158.4	1192.1	1227.8	1239.7
40°	1094.9	1110.8	1146.5	1188.1	1204.0
42.5°	1041.4	1063.2	1102.9	1148.5	1166.3
45°	987.8	1007.6	1057.2	1108.8	1128.6
47.5°	930.3	954.1	1007.6	1069.1	1092.9
50°	868.8	898.5	960.0	1027.5	1053.3
52.5°	807.3	841.0	910.4	985.8	1013.6
55°	747.8	779.5	862.8	944.2	973.9
57.5°	682.3	722.0	813.3	900.5	930.3
60°	614.9	658.5	763.7	854.9	886.6
62.5°	547.5	597.0	716.1	807.3	841.0
65°	480.0	535.6	660.5	757.7	791.4
67.5°	414.6	476.1	608.9	706.1	739.9
70°	339.2	416.5	553.4	648.6	682.3
72.5°	269.8	359.0	499.9	589.1	618.9
75°	208.3	303.5	440.3	521.7	533.6
77.5°	152.7	247.9	378.9	406.6	408.6
80°	103.1	198.4	289.6	285.6	289.6
82.5°	67.4	148.8	182.5	204.3	206.3
85°	39.7	87.3	107.1	119.0	121.0
87.5°	19.8	29.8	37.7	39.7	43.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)