

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: P313312

Luminaire Tested: **24FCZ2-55HE-UNV-L83050-HRP-CP250-W2A-U-4000K**

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: P313312
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: 24FCZ2-55HE-UNV-L83050-HRP-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 4000K 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: 3841.0 lumens
Efficiency: N/A
Efficacy: 87.1 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

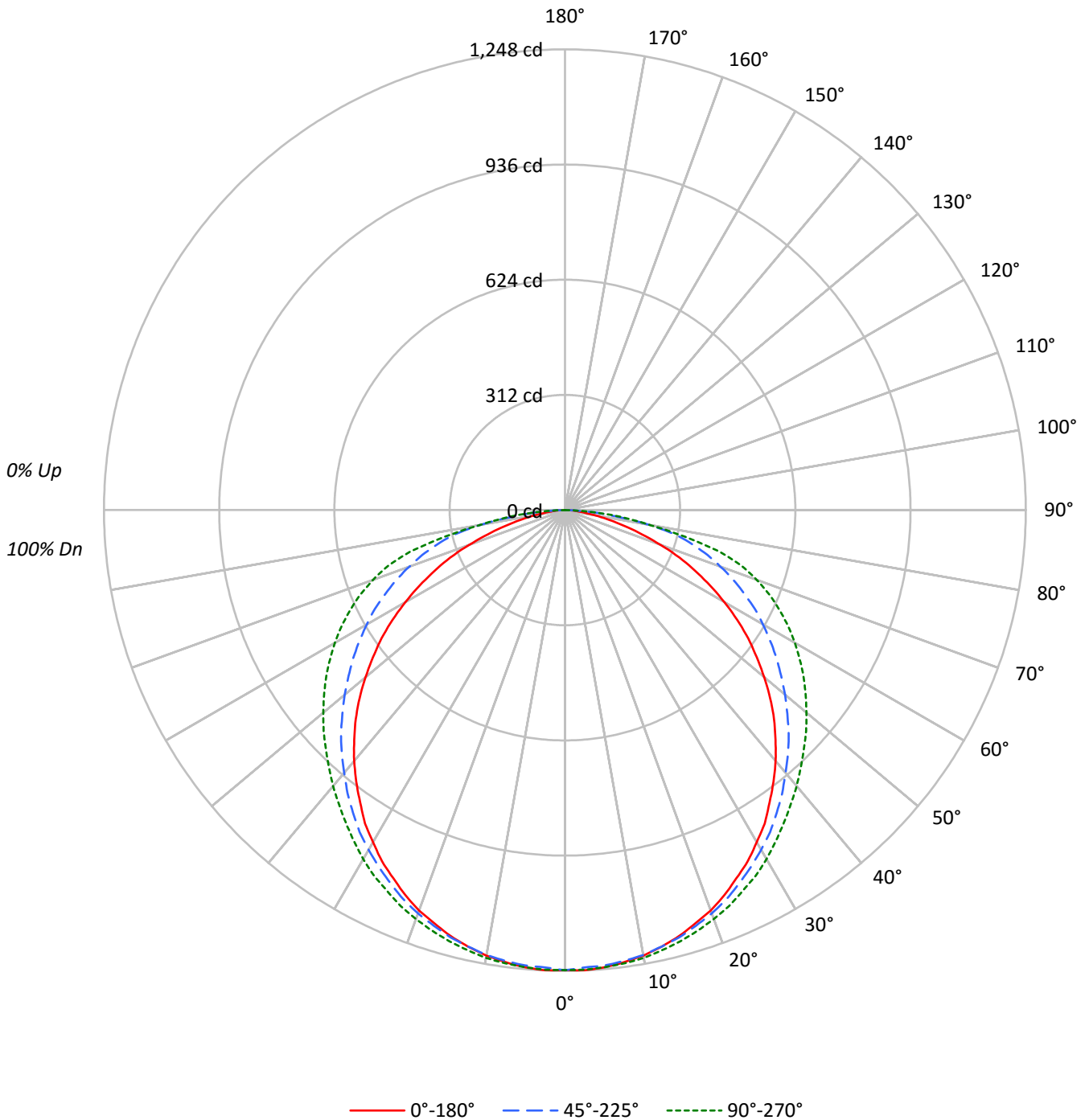
Input Watts (W): 44.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1677	1677	1677
5°	1679	1672	1679
10°	1674	1672	1683
15°	1664	1669	1684
20°	1653	1665	1688
25°	1633	1657	1690
30°	1614	1651	1696
35°	1587	1643	1698
40°	1559	1632	1714
45°	1524	1631	1741
50°	1474	1629	1787
55°	1422	1641	1852
60°	1341	1666	1934
65°	1239	1705	2043
70°	1082	1765	2176
75°	878	1856	2249
80°	648	1819	1819
85°	497	1340	1514



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.1	3.1
10°-20°	339.0	8.8
20°-30°	516.1	13.4
30°-40°	626.7	16.3
40°-50°	662.1	17.2
50°-60°	624.7	16.3
60°-70°	519.5	13.5
70°-80°	341.7	8.9
80°-90°	93.2	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°	973.2	25.3
0°-40°	1599.8	41.7
0°-60°	2886.7	75.2
0°-90°	3841.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3841.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1246	1246	1246	1246	1246	
5°	1243	1243	1238	1243	1243	118
15°	1195	1196	1198	1209	1209	337
25°	1100	1106	1116	1135	1138	507
35°	966	978	1000	1026	1034	605
45°	801	817	857	899	915	617
55°	606	632	700	765	790	540
65°	389	434	536	614	642	385
75°	169	246	357	423	433	182
85°	32	71	87	96	98	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1246.2	1246.2	1246.2	1246.2	1246.2
2.5°	1247.8	1246.2	1239.8	1246.2	1246.2
5°	1243.0	1243.0	1238.2	1243.0	1243.0
7.5°	1235.0	1235.0	1231.7	1238.2	1238.2
10°	1225.3	1225.3	1223.7	1231.7	1231.7
12.5°	1210.8	1212.4	1210.8	1220.5	1220.5
15°	1194.8	1196.4	1198.0	1209.2	1209.2
17.5°	1173.9	1177.1	1180.3	1193.2	1194.8
20°	1154.6	1156.2	1162.6	1177.1	1178.7
22.5°	1128.8	1133.7	1141.7	1156.2	1161.0
25°	1099.9	1106.3	1116.0	1135.3	1138.5
27.5°	1072.5	1077.4	1090.2	1111.1	1117.6
30°	1038.8	1046.8	1062.9	1083.8	1091.8
32.5°	1006.6	1014.7	1034.0	1056.5	1062.9
35°	966.4	977.7	1000.2	1025.9	1034.0
37.5°	927.8	939.1	966.4	995.4	1005.0
40°	887.6	900.5	929.4	963.2	976.1
42.5°	844.2	861.9	894.1	931.0	945.5
45°	800.8	816.9	857.1	898.9	915.0
47.5°	754.2	773.5	816.9	866.7	886.0
50°	704.3	728.4	778.3	833.0	853.9
52.5°	654.5	681.8	738.1	799.2	821.7
55°	606.2	632.0	699.5	765.4	789.5
57.5°	553.2	585.3	659.3	730.0	754.2
60°	498.5	533.9	619.1	693.1	718.8
62.5°	443.8	484.0	580.5	654.5	681.8
65°	389.1	434.2	535.5	614.3	641.6
67.5°	336.1	385.9	493.7	572.5	599.8
70°	275.0	337.7	448.6	525.8	553.2
72.5°	218.7	291.1	405.2	477.6	501.7
75°	168.8	246.0	357.0	422.9	432.6
77.5°	123.8	201.0	307.1	329.6	331.3
80°	83.6	160.8	234.8	231.6	234.8
82.5°	54.7	120.6	147.9	165.6	167.2
85°	32.2	70.8	86.8	96.5	98.1
87.5°	16.1	24.1	30.6	32.2	35.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)