

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: P313308

Luminaire Tested: **24FCZ2-55HE-UNV-L83050-HRP-CP187-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: P313308
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-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB 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: 3910.0 lumens
Efficiency: N/A
Efficacy: 86.5 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

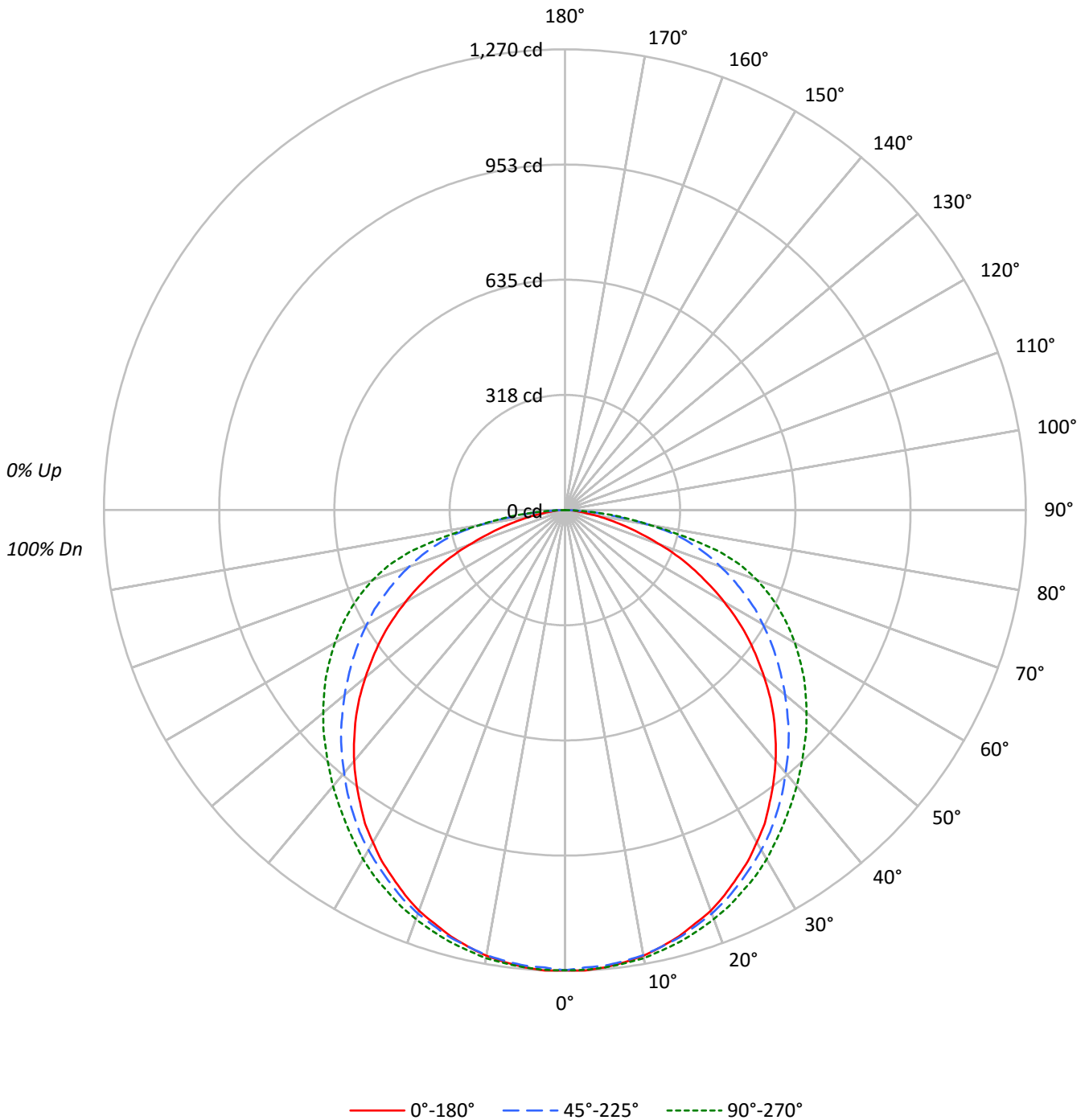
Input Watts (W): 45.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1707	1707	1707
5°	1709	1702	1709
10°	1704	1702	1713
15°	1694	1699	1715
20°	1683	1695	1718
25°	1662	1686	1720
30°	1643	1681	1727
35°	1616	1672	1729
40°	1587	1662	1745
45°	1551	1660	1772
50°	1501	1658	1819
55°	1448	1670	1885
60°	1365	1696	1969
65°	1261	1735	2079
70°	1101	1797	2215
75°	894	1889	2289
80°	659	1852	1852
85°	505	1365	1542



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.2	3.1
10°-20°	345.1	8.8
20°-30°	525.4	13.4
30°-40°	637.9	16.3
40°-50°	674.0	17.2
50°-60°	636.0	16.3
60°-70°	528.8	13.5
70°-80°	347.9	8.9
80°-90°	94.8	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°	990.6	25.3
0°-40°	1628.6	41.7
0°-60°	2938.5	75.2
0°-90°	3910.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3910.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1269	1269	1269	1269	1269	
5°	1265	1265	1260	1265	1265	120
15°	1216	1218	1220	1231	1231	343
25°	1120	1126	1136	1156	1159	516
35°	984	995	1018	1044	1052	616
45°	815	832	872	915	931	628
55°	617	643	712	779	804	550
65°	396	442	545	625	653	392
75°	172	250	363	430	440	185
85°	33	72	88	98	100	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1268.6	1268.6	1268.6	1268.6	1268.6
2.5°	1270.2	1268.6	1262.1	1268.6	1268.6
5°	1265.3	1265.3	1260.4	1265.3	1265.3
7.5°	1257.1	1257.1	1253.9	1260.4	1260.4
10°	1247.3	1247.3	1245.7	1253.9	1253.9
12.5°	1232.6	1234.2	1232.6	1242.4	1242.4
15°	1216.2	1217.9	1219.5	1231.0	1231.0
17.5°	1194.9	1198.2	1201.5	1214.6	1216.2
20°	1175.3	1176.9	1183.5	1198.2	1199.9
22.5°	1149.1	1154.0	1162.2	1176.9	1181.8
25°	1119.6	1126.2	1136.0	1155.7	1158.9
27.5°	1091.8	1096.7	1109.8	1131.1	1137.7
30°	1057.4	1065.6	1082.0	1103.3	1111.5
32.5°	1024.7	1032.9	1052.5	1075.4	1082.0
35°	983.8	995.2	1018.2	1044.3	1052.5
37.5°	944.5	956.0	983.8	1013.2	1023.1
40°	903.6	916.7	946.1	980.5	993.6
42.5°	859.4	877.4	910.1	947.8	962.5
45°	815.2	831.5	872.5	915.0	931.4
47.5°	767.7	787.4	831.5	882.3	901.9
50°	717.0	741.5	792.3	847.9	869.2
52.5°	666.2	694.0	751.3	813.5	836.5
55°	617.1	643.3	712.1	779.2	803.7
57.5°	563.1	595.8	671.1	743.2	767.7
60°	507.4	543.5	630.2	705.5	731.7
62.5°	451.8	492.7	590.9	666.2	694.0
65°	396.1	442.0	545.1	625.3	653.1
67.5°	342.1	392.9	502.5	582.7	610.6
70°	279.9	343.8	456.7	535.3	563.1
72.5°	222.6	296.3	412.5	486.2	510.7
75°	171.9	250.4	363.4	430.5	440.3
77.5°	126.0	204.6	312.6	335.6	337.2
80°	85.1	163.7	239.0	235.7	239.0
82.5°	55.7	122.8	150.6	168.6	170.2
85°	32.7	72.0	88.4	98.2	99.9
87.5°	16.4	24.6	31.1	32.7	36.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)