

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: P309631

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-HRP-CP250-W2A-U-5000K**

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: P309631
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-L82765-HRP-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 5000K 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: 3679.0 lumens
Efficiency: N/A
Efficacy: 83.4 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

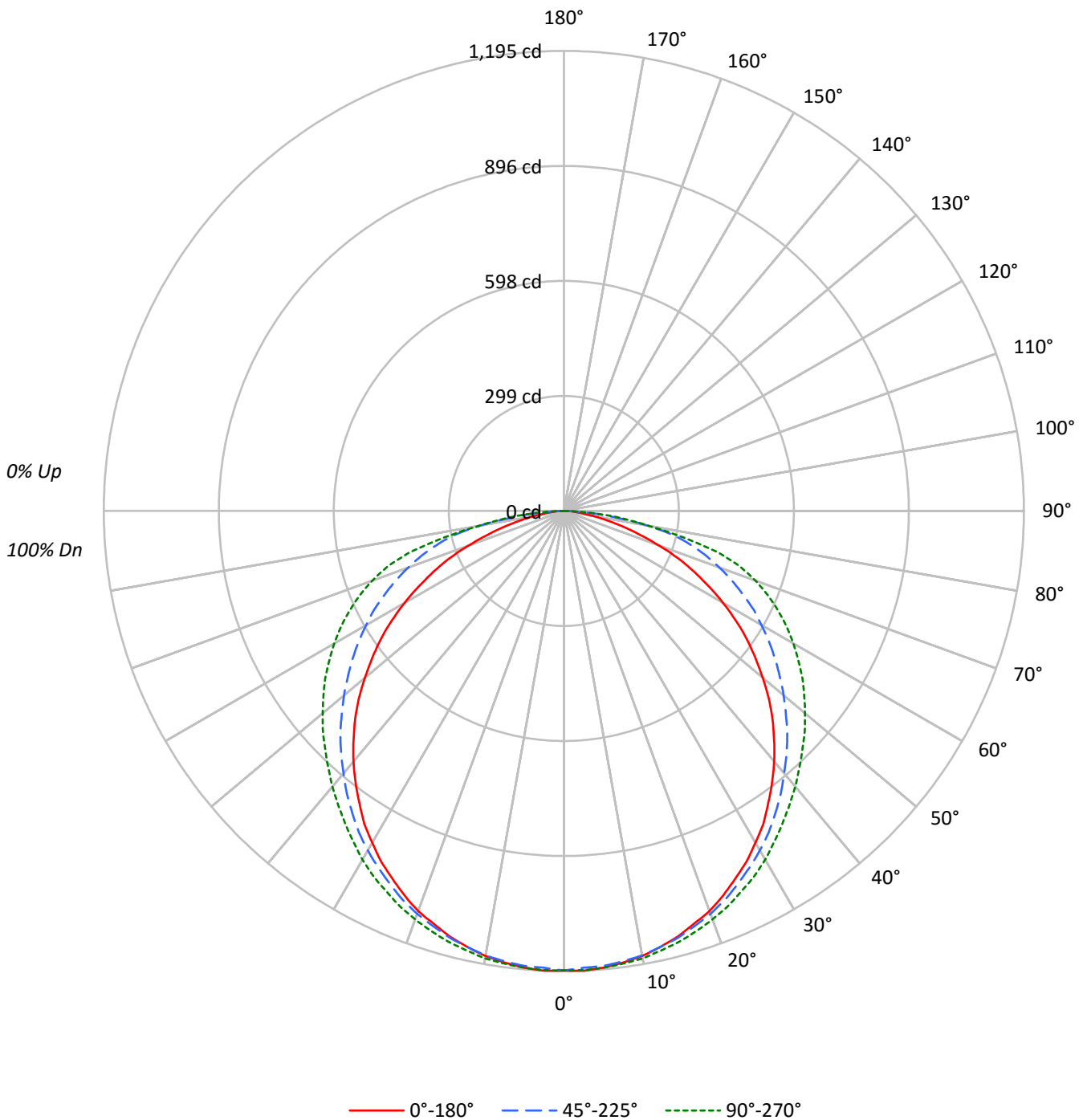
Input Watts (W): 44.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82				82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67				67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56				56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48				48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41				41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36				36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28				28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25				25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23				23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1606	1606	1606
5°	1608	1602	1608
10°	1603	1601	1612
15°	1594	1598	1613
20°	1583	1594	1617
25°	1564	1587	1619
30°	1546	1582	1625
35°	1520	1574	1627
40°	1493	1564	1642
45°	1459	1562	1668
50°	1412	1560	1712
55°	1362	1572	1774
60°	1285	1596	1853
65°	1187	1633	1956
70°	1036	1690	2084
75°	841	1777	2154
80°	621	1743	1743
85°	475	1284	1451



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.1	3.1
10°-20°	324.7	8.8
20°-30°	494.3	13.4
30°-40°	600.2	16.3
40°-50°	634.1	17.2
50°-60°	598.4	16.3
60°-70°	497.5	13.5
70°-80°	327.3	8.9
80°-90°	89.2	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°	932.1	25.3
0°-40°	1532.4	41.7
0°-60°	2764.9	75.2
0°-90°	3679.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3679.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1194	1194	1194	1194	1194	
5°	1191	1191	1186	1191	1191	113
15°	1144	1146	1147	1158	1158	323
25°	1054	1060	1069	1087	1090	486
35°	926	936	958	983	990	579
45°	767	782	821	861	876	591
55°	581	605	670	733	756	517
65°	373	416	513	588	614	368
75°	162	236	342	405	414	174
85°	31	68	83	92	94	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1193.7	1193.7	1193.7	1193.7	1193.7
2.5°	1195.2	1193.7	1187.5	1193.7	1193.7
5°	1190.6	1190.6	1186.0	1190.6	1190.6
7.5°	1182.9	1182.9	1179.8	1186.0	1186.0
10°	1173.6	1173.6	1172.1	1179.8	1179.8
12.5°	1159.8	1161.3	1159.8	1169.0	1169.0
15°	1144.4	1145.9	1147.4	1158.2	1158.2
17.5°	1124.3	1127.4	1130.5	1142.8	1144.4
20°	1105.9	1107.4	1113.6	1127.4	1129.0
22.5°	1081.2	1085.8	1093.5	1107.4	1112.0
25°	1053.5	1059.7	1068.9	1087.4	1090.5
27.5°	1027.3	1031.9	1044.3	1064.3	1070.4
30°	995.0	1002.7	1018.1	1038.1	1045.8
32.5°	964.2	971.9	990.3	1011.9	1018.1
35°	925.7	936.4	958.0	982.6	990.3
37.5°	888.7	899.5	925.7	953.4	962.6
40°	850.2	862.5	890.2	922.6	934.9
42.5°	808.6	825.5	856.4	891.8	905.6
45°	767.0	782.4	820.9	861.0	876.4
47.5°	722.4	740.8	782.4	830.2	848.6
50°	674.6	697.7	745.5	797.8	817.8
52.5°	626.9	653.0	707.0	765.5	787.0
55°	580.7	605.3	670.0	733.1	756.2
57.5°	529.8	560.6	631.5	699.3	722.4
60°	477.5	511.3	593.0	663.8	688.5
62.5°	425.1	463.6	556.0	626.9	653.0
65°	372.7	415.9	512.9	588.4	614.5
67.5°	321.9	369.6	472.8	548.3	574.5
70°	263.4	323.4	429.7	503.6	529.8
72.5°	209.5	278.8	388.1	457.4	480.5
75°	161.7	235.7	341.9	405.1	414.3
77.5°	118.6	192.5	294.2	315.7	317.3
80°	80.1	154.0	224.9	221.8	224.9
82.5°	52.4	115.5	141.7	158.6	160.2
85°	30.8	67.8	83.2	92.4	94.0
87.5°	15.4	23.1	29.3	30.8	33.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)