

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: P312938

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-S-CP250-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: P312938
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-24HE-UNV-L83050-S-CP250-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 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: 2277.0 lumens
Efficiency: N/A
Efficacy: 115.0 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

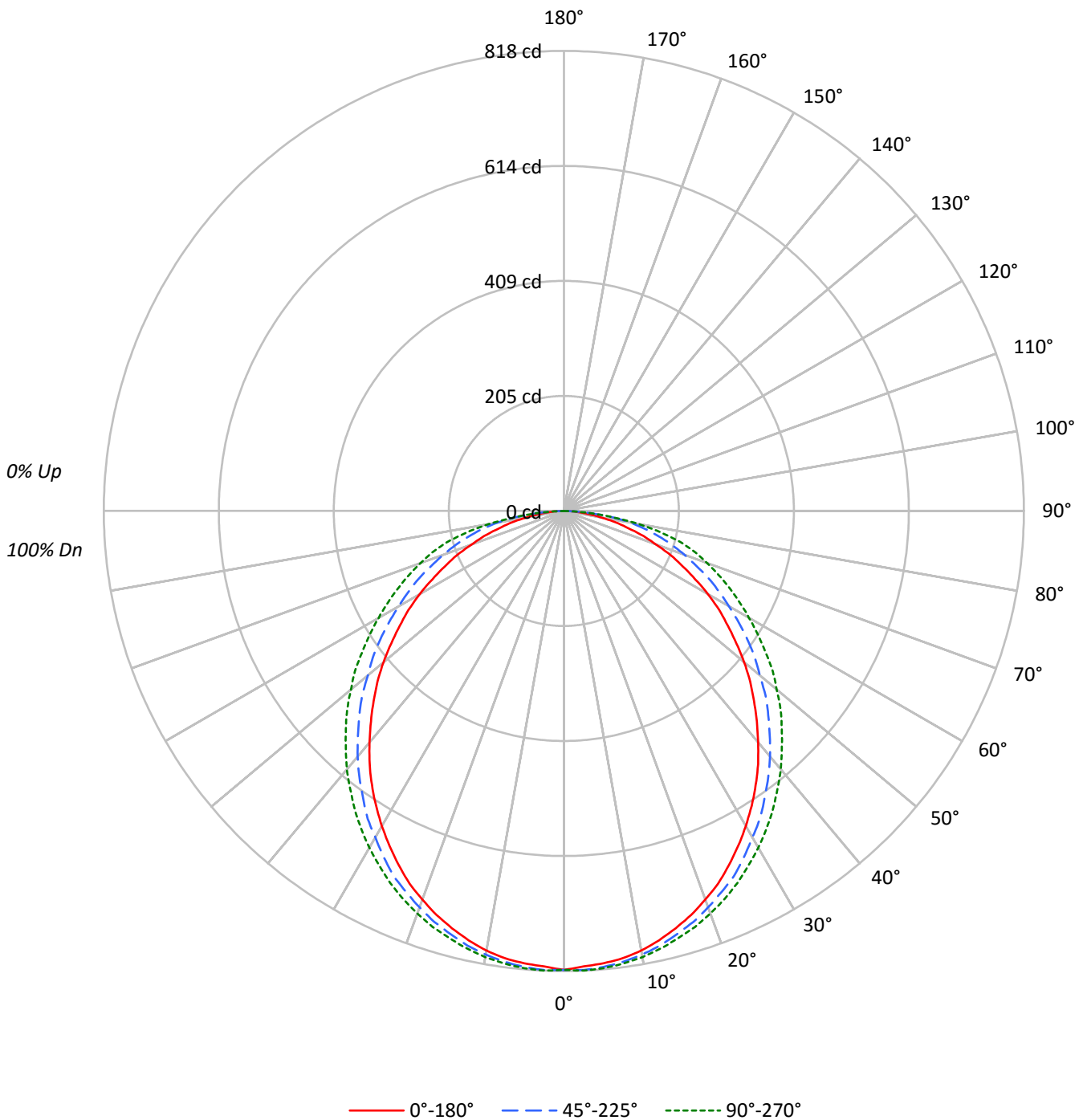
Input Watts (W): 19.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2196	2196	2196
5°	2181	2198	2204
10°	2169	2189	2200
15°	2140	2169	2190
20°	2105	2148	2181
25°	2063	2126	2167
30°	2010	2083	2149
35°	1954	2045	2129
40°	1888	2004	2109
45°	1819	1957	2086
50°	1752	1904	2068
55°	1670	1869	2054
60°	1595	1824	2047
65°	1488	1813	2070
70°	1371	1797	2131
75°	1237	1823	2243
80°	1071	1877	2108
85°	886	1575	1575



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.2	3.4
10°-20°	219.6	9.6
20°-30°	328.6	14.4
30°-40°	389.1	17.1
40°-50°	396.5	17.4
50°-60°	355.4	15.6
60°-70°	278.2	12.2
70°-80°	179.4	7.9
80°-90°	53.0	2.3
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°	625.3	27.5
0°-40°	1014.4	44.5
0°-60°	1766.3	77.6
0°-90°	2277.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2277.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	816	816	816	816	816	
5°	807	810	814	815	816	77
15°	768	772	779	785	786	217
25°	695	701	716	726	730	320
35°	595	602	623	642	648	372
45°	478	489	514	541	548	369
55°	356	368	398	426	438	319
65°	234	248	285	312	325	232
75°	119	137	175	205	216	128
85°	29	39	51	51	51	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	815.9	815.9	815.9	815.9	815.9
2.5°	810.6	812.7	817.0	818.0	818.0
5°	807.4	809.5	813.8	814.9	815.9
7.5°	802.1	803.2	808.5	810.6	811.7
10°	793.6	795.7	801.0	804.2	805.3
12.5°	781.9	785.1	791.5	795.7	796.8
15°	768.1	772.4	778.7	785.1	786.2
17.5°	753.2	757.5	766.0	773.4	775.5
20°	735.2	740.5	750.1	758.6	761.7
22.5°	717.1	721.4	733.1	743.7	746.9
25°	694.8	701.2	716.1	725.6	729.9
27.5°	671.4	678.9	693.7	706.5	710.7
30°	647.0	654.4	670.4	686.3	691.6
32.5°	621.5	630.0	649.1	665.1	670.4
35°	594.9	602.4	622.6	641.7	648.1
37.5°	567.3	573.7	597.1	617.3	623.6
40°	537.6	546.1	570.5	593.9	600.3
42.5°	507.8	517.4	541.8	567.3	573.7
45°	478.1	488.7	514.2	540.8	548.2
47.5°	449.4	457.9	486.6	512.1	522.7
50°	418.6	427.1	454.7	483.4	494.0
52.5°	386.7	398.4	428.1	455.8	468.5
55°	355.9	367.6	398.4	426.0	437.7
57.5°	327.2	336.8	368.7	397.3	409.0
60°	296.4	304.9	338.9	369.7	380.3
62.5°	263.5	276.2	311.3	340.0	352.7
65°	233.7	247.5	284.7	312.3	325.1
67.5°	206.1	218.9	255.0	284.7	298.5
70°	174.2	191.2	228.4	258.2	270.9
72.5°	148.7	163.6	201.9	231.6	245.4
75°	119.0	137.0	175.3	205.0	215.7
77.5°	94.6	112.6	148.7	172.1	177.4
80°	69.1	87.1	121.1	132.8	136.0
82.5°	46.7	63.7	87.1	90.3	91.4
85°	28.7	39.3	51.0	51.0	51.0
87.5°	13.8	15.9	18.1	17.0	17.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)