

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: P312593

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-RDP-CA08-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: P312593
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-24)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-20HE-UNV-L83050-RDP-CA08-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC 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: 1380.0 lumens
Efficiency: N/A
Efficacy: 78.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

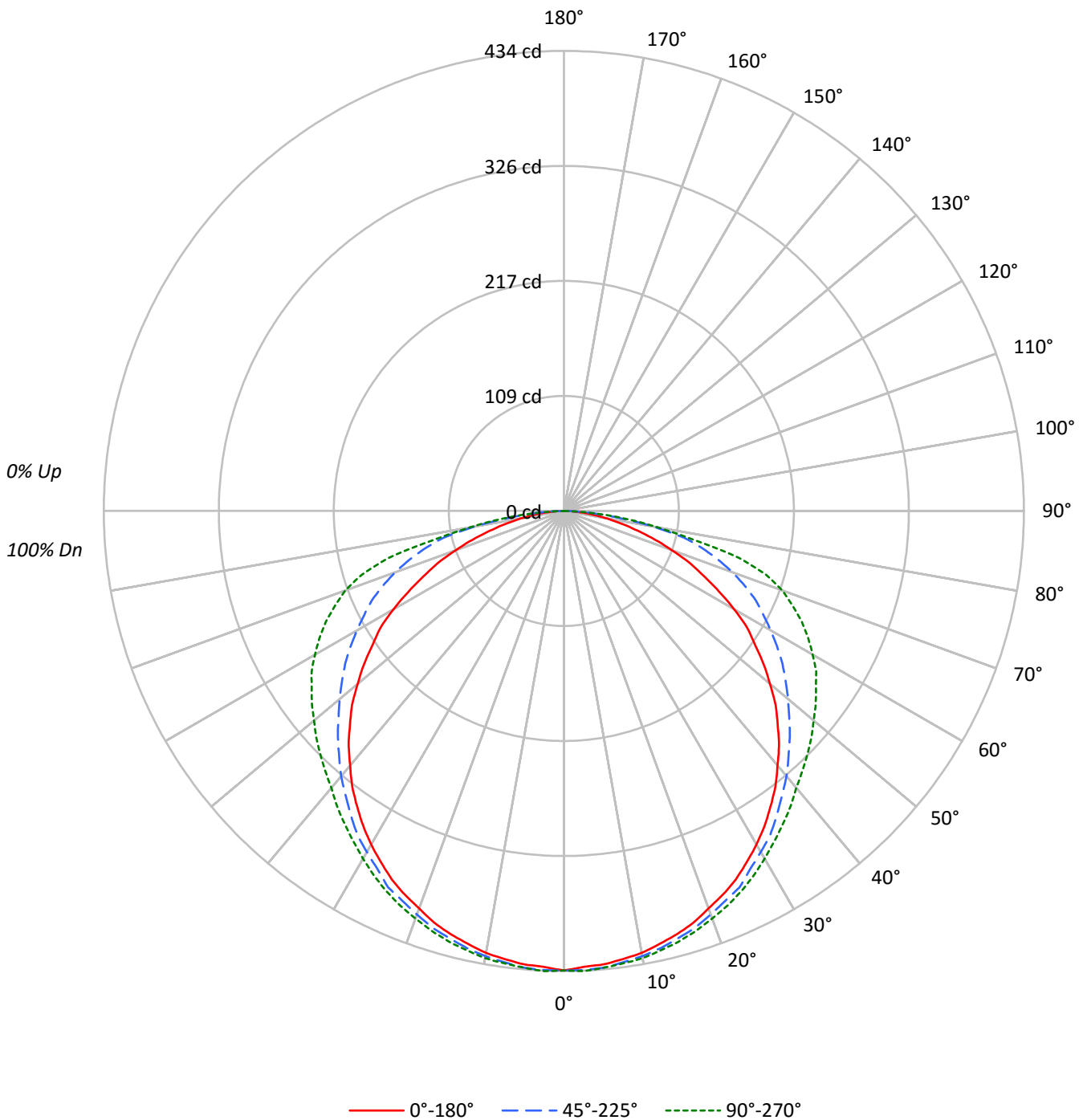
Input Watts (W): 17.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	82
2	97	88	81	75	95	86	80	74	83	77	72	80	75	71	76	72	69	67
3	88	77	68	61	86	75	67	61	72	65	60	70	64	59	67	62	58	55
4	80	68	59	51	78	66	58	51	64	56	50	61	55	50	59	54	49	47
5	74	60	51	44	72	59	50	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	44	38	51	43	38	50	43	37	48	42	37	35
7	63	49	40	33	61	48	39	33	47	39	33	45	38	33	44	37	33	31
8	59	45	36	30	57	44	35	30	43	35	29	41	34	29	40	34	29	27
9	55	41	32	27	53	40	32	27	39	32	26	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1167	1167	1167
5°	1160	1168	1168
10°	1157	1165	1171
15°	1151	1162	1171
20°	1143	1160	1172
25°	1139	1164	1175
30°	1129	1155	1177
35°	1117	1150	1184
40°	1102	1148	1198
45°	1086	1147	1236
50°	1063	1156	1288
55°	1034	1181	1362
60°	1000	1213	1459
65°	931	1273	1577
70°	854	1334	1725
75°	750	1404	1784
80°	645	1337	1401
85°	565	973	1065



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.0	3.0
10°-20°	117.7	8.5
20°-30°	179.6	13.0
30°-40°	219.3	15.9
40°-50°	234.5	17.0
50°-60°	226.3	16.4
60°-70°	194.9	14.1
70°-80°	131.8	9.6
80°-90°	34.8	2.5
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°	338.4	24.5
0°-40°	557.7	40.4
0°-60°	1018.5	73.8
0°-90°	1380.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1380.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	434	434	434	434	434	
5°	429	430	432	432	432	41
15°	413	414	417	419	420	117
25°	384	386	392	394	396	177
35°	340	343	350	357	360	213
45°	285	290	302	317	325	220
55°	220	227	252	277	290	197
65°	146	160	200	232	248	145
75°	72	95	135	162	172	77
85°	18	25	32	32	34	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	433.5	433.5	433.5	433.5	433.5
2.5°	430.4	431.5	433.5	433.5	434.5
5°	429.4	430.4	432.5	432.5	432.5
7.5°	426.4	427.4	429.4	430.4	430.4
10°	423.3	424.3	426.4	427.4	428.4
12.5°	418.3	419.3	422.3	424.3	424.3
15°	413.2	414.2	417.2	419.3	420.3
17.5°	407.1	409.1	412.2	414.2	415.2
20°	399.0	401.0	405.1	408.1	409.1
22.5°	391.9	393.9	398.0	401.0	403.0
25°	383.7	385.8	391.9	393.9	395.9
27.5°	373.6	375.6	380.7	384.8	387.8
30°	363.4	365.5	371.6	376.6	378.7
32.5°	352.3	355.3	362.4	366.5	369.5
35°	340.1	343.1	350.2	357.3	360.4
37.5°	327.9	330.9	338.1	347.2	351.3
40°	313.7	317.8	326.9	339.1	341.1
42.5°	300.5	305.6	313.7	327.9	333.0
45°	285.3	290.3	301.5	316.7	324.9
47.5°	271.1	276.1	288.3	306.6	316.7
50°	253.8	260.9	276.1	297.4	307.6
52.5°	237.6	243.6	263.9	287.3	299.5
55°	220.3	227.4	251.8	277.1	290.3
57.5°	205.1	211.2	238.6	267.0	282.2
60°	185.8	193.9	225.4	255.8	271.1
62.5°	165.5	177.7	212.2	243.6	259.9
65°	146.2	160.4	200.0	231.5	247.7
67.5°	128.9	144.2	184.8	218.3	233.5
70°	108.6	127.9	169.5	202.0	219.3
72.5°	90.4	111.7	152.3	184.8	200.0
75°	72.1	95.4	135.0	162.4	171.6
77.5°	55.8	78.2	115.7	123.9	124.9
80°	41.6	61.9	86.3	87.3	90.4
82.5°	28.4	43.7	55.8	60.9	61.9
85°	18.3	25.4	31.5	32.5	34.5
87.5°	8.1	9.1	11.2	10.2	10.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)