

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: P309498

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CP250-W2A-U-5700K**

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: P309498
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: 24FCZ2-45-UNV-L82765-HRP-CP250-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (168) 5700K 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: 3041.0 lumens
Efficiency: N/A
Efficacy: 78.6 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

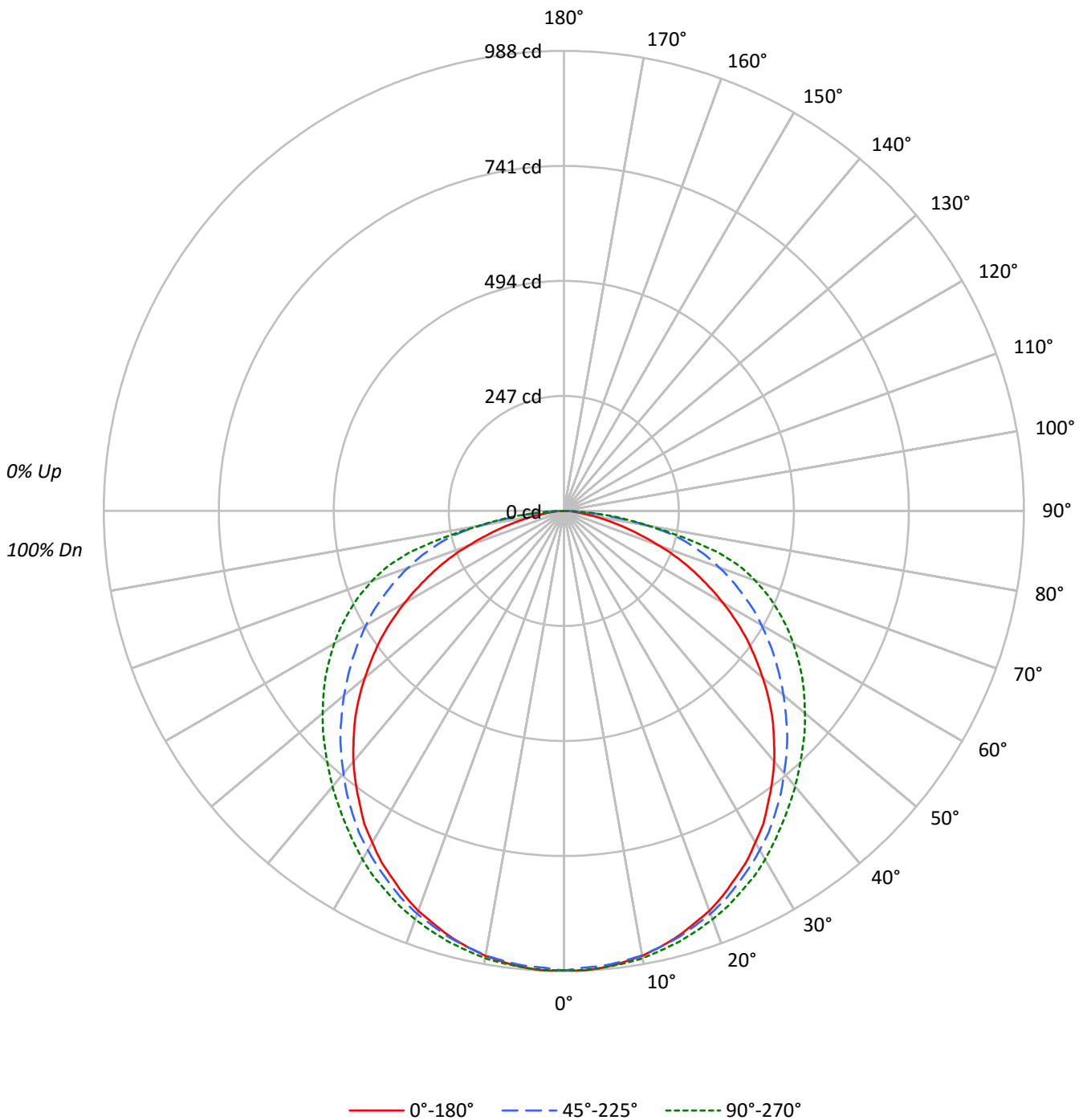
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1328	1328	1328
5°	1329	1324	1329
10°	1325	1324	1332
15°	1318	1321	1334
20°	1309	1318	1336
25°	1293	1312	1338
30°	1278	1307	1343
35°	1257	1301	1345
40°	1234	1293	1357
45°	1206	1291	1378
50°	1167	1290	1415
55°	1126	1299	1466
60°	1062	1319	1531
65°	981	1350	1617
70°	856	1397	1723
75°	695	1469	1781
80°	513	1440	1440
85°	394	1061	1200



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.5	3.1
10°-20°	268.4	8.8
20°-30°	408.6	13.4
30°-40°	496.1	16.3
40°-50°	524.2	17.2
50°-60°	494.6	16.3
60°-70°	411.3	13.5
70°-80°	270.6	8.9
80°-90°	73.8	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°	770.5	25.3
0°-40°	1266.6	41.7
0°-60°	2285.4	75.2
0°-90°	3041.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3041.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	987	987	987	987	987	
5°	984	984	980	984	984	93
15°	946	947	948	957	957	267
25°	871	876	884	899	901	402
35°	765	774	792	812	819	479
45°	634	647	679	712	724	488
55°	480	500	554	606	625	428
65°	308	344	424	486	508	305
75°	134	195	283	335	342	144
85°	26	56	69	76	78	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	986.7	986.7	986.7	986.7	986.7
2.5°	987.9	986.7	981.6	986.7	986.7
5°	984.1	984.1	980.3	984.1	984.1
7.5°	977.7	977.7	975.2	980.3	980.3
10°	970.1	970.1	968.8	975.2	975.2
12.5°	958.6	959.9	958.6	966.3	966.3
15°	945.9	947.2	948.5	957.4	957.4
17.5°	929.4	931.9	934.5	944.6	945.9
20°	914.1	915.4	920.5	931.9	933.2
22.5°	893.7	897.5	903.9	915.4	919.2
25°	870.8	875.9	883.5	898.8	901.4
27.5°	849.2	853.0	863.2	879.7	884.8
30°	822.4	828.8	841.5	858.1	864.4
32.5°	797.0	803.3	818.6	836.4	841.5
35°	765.1	774.0	791.9	812.2	818.6
37.5°	734.6	743.5	765.1	788.1	795.7
40°	702.8	712.9	735.9	762.6	772.8
42.5°	668.4	682.4	707.8	737.1	748.6
45°	634.0	646.7	678.6	711.7	724.4
47.5°	597.1	612.4	646.7	686.2	701.5
50°	557.6	576.7	616.2	659.5	676.0
52.5°	518.2	539.8	584.4	632.7	650.6
55°	480.0	500.3	553.8	606.0	625.1
57.5°	437.9	463.4	522.0	578.0	597.1
60°	394.7	422.7	490.1	548.7	569.1
62.5°	351.4	383.2	459.6	518.2	539.8
65°	308.1	343.7	423.9	486.3	508.0
67.5°	266.1	305.5	390.8	453.2	474.9
70°	217.7	267.4	355.2	416.3	437.9
72.5°	173.1	230.4	320.8	378.1	397.2
75°	133.7	194.8	282.6	334.8	342.5
77.5°	98.0	159.1	243.2	261.0	262.3
80°	66.2	127.3	185.9	183.3	185.9
82.5°	43.3	95.5	117.1	131.1	132.4
85°	25.5	56.0	68.7	76.4	77.7
87.5°	12.7	19.1	24.2	25.5	28.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)