

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: P309709

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-3500K**

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: P309709
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: 24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 3500K 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: 4143.0 lumens
Efficiency: N/A
Efficacy: 78.5 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

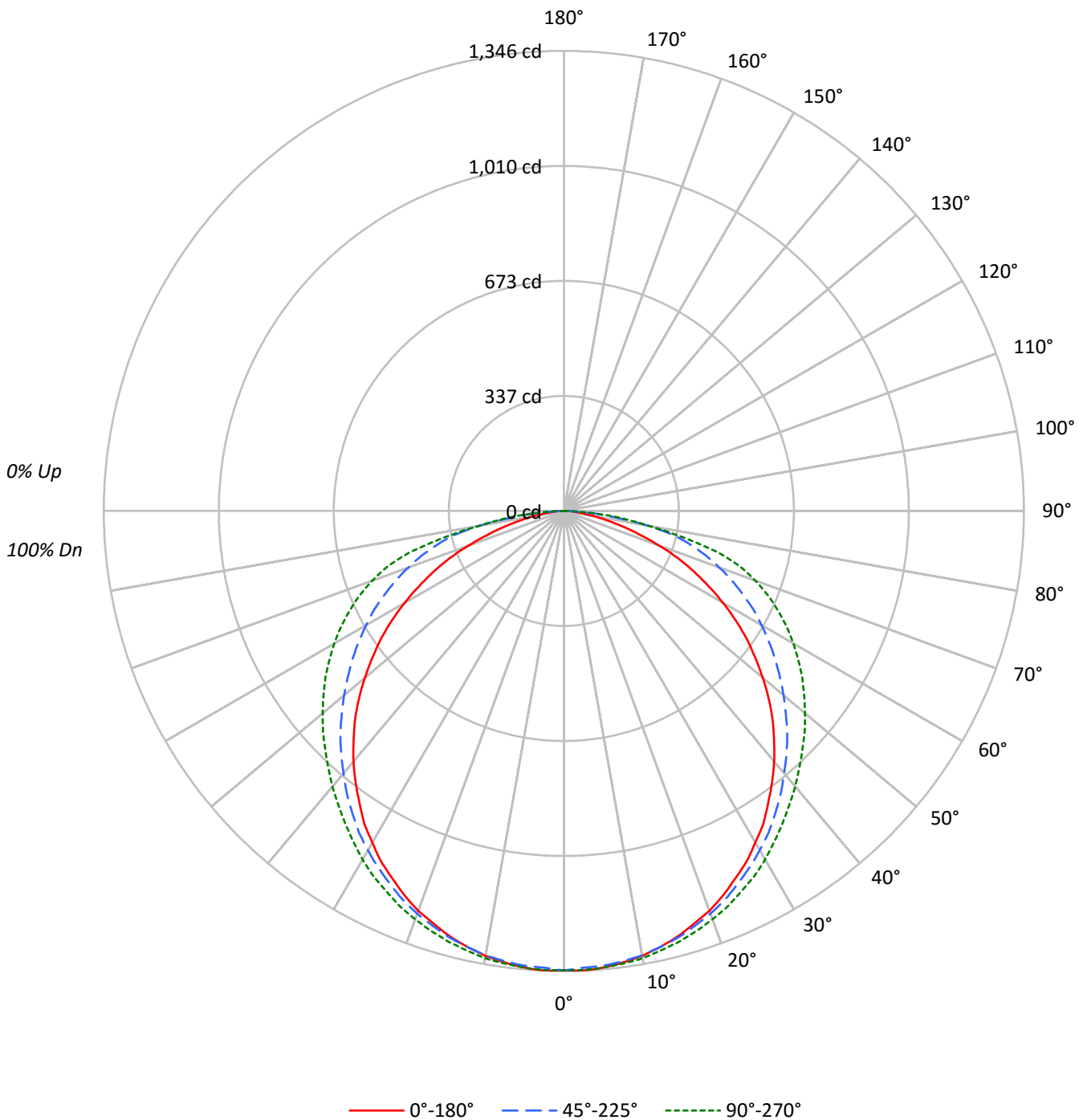
Input Watts (W): 52.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1809	1809	1809
5°	1811	1804	1811
10°	1806	1803	1815
15°	1795	1800	1817
20°	1783	1796	1820
25°	1761	1787	1823
30°	1741	1781	1830
35°	1712	1772	1832
40°	1682	1761	1849
45°	1644	1759	1878
50°	1590	1757	1928
55°	1534	1770	1998
60°	1447	1797	2086
65°	1336	1839	2203
70°	1167	1904	2347
75°	947	2001	2426
80°	699	1962	1962
85°	536	1447	1633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.3	3.1
10°-20°	365.7	8.8
20°-30°	556.7	13.4
30°-40°	675.9	16.3
40°-50°	714.1	17.2
50°-60°	673.9	16.3
60°-70°	560.3	13.5
70°-80°	368.6	8.9
80°-90°	100.5	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°	1049.7	25.3
0°-40°	1725.6	41.7
0°-60°	3113.6	75.2
0°-90°	4143.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4143.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1341	1341	1336	1341	1341	127
15°	1289	1290	1292	1304	1304	363
25°	1186	1193	1204	1224	1228	547
35°	1042	1054	1079	1107	1115	653
45°	864	881	924	970	987	665
55°	654	682	754	826	852	582
65°	420	468	578	663	692	415
75°	182	265	385	456	467	196
85°	35	76	94	104	106	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1344.2	1344.2	1344.2	1344.2	1344.2
2.5°	1345.9	1344.2	1337.3	1344.2	1344.2
5°	1340.7	1340.7	1335.5	1340.7	1340.7
7.5°	1332.1	1332.1	1328.6	1335.5	1335.5
10°	1321.7	1321.7	1319.9	1328.6	1328.6
12.5°	1306.0	1307.8	1306.0	1316.4	1316.4
15°	1288.7	1290.4	1292.2	1304.3	1304.3
17.5°	1266.1	1269.6	1273.1	1287.0	1288.7
20°	1245.3	1247.1	1254.0	1269.6	1271.4
22.5°	1217.6	1222.8	1231.5	1247.1	1252.3
25°	1186.4	1193.3	1203.7	1224.5	1228.0
27.5°	1156.9	1162.1	1176.0	1198.5	1205.4
30°	1120.5	1129.1	1146.5	1169.0	1177.7
32.5°	1085.8	1094.4	1115.3	1139.5	1146.5
35°	1042.4	1054.5	1078.8	1106.6	1115.3
37.5°	1000.8	1012.9	1042.4	1073.6	1084.0
40°	957.4	971.3	1002.5	1038.9	1052.8
42.5°	910.6	929.7	964.4	1004.2	1019.9
45°	863.8	881.1	924.5	969.6	986.9
47.5°	813.5	834.3	881.1	934.9	955.7
50°	759.7	785.7	839.5	898.4	921.0
52.5°	705.9	735.4	796.1	862.0	886.3
55°	653.9	681.6	754.5	825.6	851.6
57.5°	596.7	631.3	711.1	787.4	813.5
60°	537.7	575.8	667.8	747.5	775.3
62.5°	478.7	522.1	626.1	705.9	735.4
65°	419.7	468.3	577.6	662.6	692.0
67.5°	362.5	416.3	532.5	617.5	647.0
70°	296.6	364.2	483.9	567.2	596.7
72.5°	235.9	313.9	437.1	515.1	541.1
75°	182.1	265.4	385.0	456.2	466.6
77.5°	133.6	216.8	331.3	355.6	357.3
80°	90.2	173.4	253.2	249.8	253.2
82.5°	59.0	130.1	159.6	178.6	180.4
85°	34.7	76.3	93.7	104.1	105.8
87.5°	17.3	26.0	33.0	34.7	38.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)