

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: 15657

Luminaire Tested: **232/3BX**

Issue Date: 3/3/2020

**Test Information**

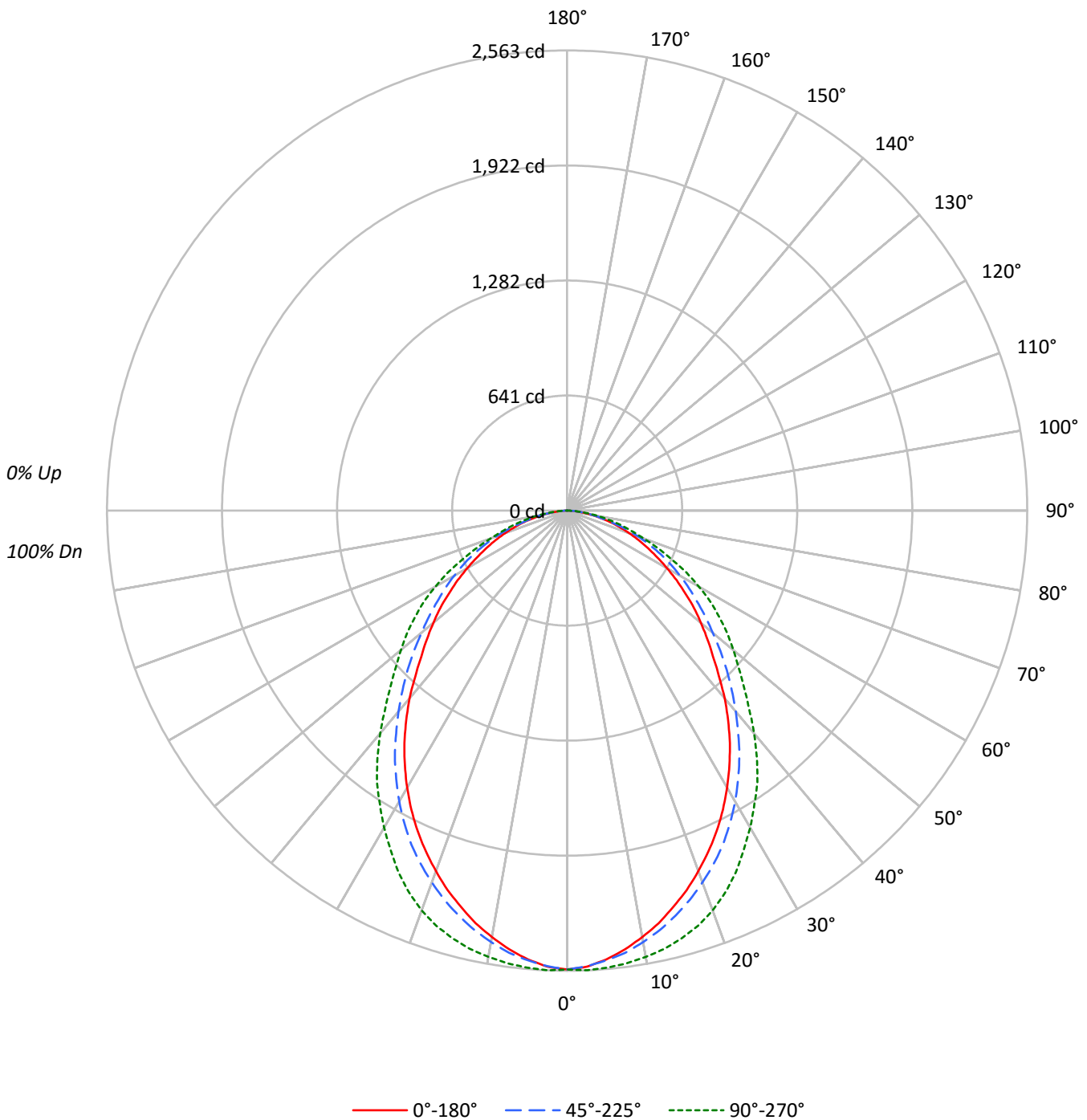
Test Method: LM-41-14  
Report Number: 15657  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: 232/3BX  
Description: NEORAY 3 LAMP 2 X 2 TROFFER LUMINAIRE  
WITH WHITE INTERIOR, WHITE LENS OVER PERFORATIONS AND 14 CELL WHITE LOUVER  
Light Source: THREE GE 40 WATT CPFL LAMPS  
  
F40/30BX/SPX35. LUMEN RATING = 9450 LMS.  
  
Ballast/Driver: ONE MAGNETEK C340I120RH BALLAST OPERATING AT 120 VAC AND 94 WATTS

**Summary**

Lumens per Lamp: 3150 (3 lamps)  
Luminaire Lumens: 5604.0 lumens  
Efficiency: 59.3%  
Efficacy: 59.6 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.19 / 1.21  
Luminous Opening: Rectangular (W 1.94' x L: 1.92' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 94  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	71	71	71	71	69	69	69	69	66	66	66	63	63	63	61	61	61	59
1	65	62	60	58	63	61	59	57	59	57	55	56	55	54	54	53	52	51
2	60	55	51	48	58	54	50	48	52	49	46	50	48	45	48	46	44	43
3	55	49	44	41	53	48	44	40	46	43	40	45	41	39	43	40	38	37
4	50	44	39	35	49	43	38	35	41	37	34	40	37	34	39	36	33	32
5	46	39	34	30	45	39	34	30	37	33	30	36	33	30	35	32	29	28
6	43	36	31	27	42	35	30	27	34	30	27	33	29	26	32	29	26	25
7	40	32	27	24	39	32	27	24	31	27	24	30	26	24	29	26	23	22
8	37	30	25	22	37	29	25	22	29	24	21	28	24	21	27	24	21	20
9	35	27	23	20	34	27	23	20	26	22	19	26	22	19	25	22	19	18
10	33	25	21	18	32	25	21	18	25	21	18	24	20	18	23	20	18	17

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	7386	7386	7386
5°	7278	7294	7412
10°	7077	7161	7407
15°	6836	6985	7378
20°	6571	6778	7288
25°	6282	6545	7089
30°	5948	6243	6802
35°	5575	5901	6514
40°	5151	5512	6111
45°	4697	5140	5693
50°	4370	4755	5429
55°	4042	4452	5213
60°	3709	4199	4898
65°	3392	3922	4394
70°	3112	3542	3801
75°	2771	2943	3411
80°	2328	2441	2862
85°	1648	1946	2125



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	238.7	4.3	2.5
10°-20°	662.5	11.8	7.0
20°-30°	950.3	17.0	10.1
30°-40°	1051.6	18.8	11.1
40°-50°	973.9	17.4	10.3
50°-60°	804.4	14.4	8.5
60°-70°	564.0	10.1	6.0
70°-80°	289.6	5.2	3.1
80°-90°	69.0	1.2	0.7
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	1851.5	33.0	19.6
0°-40°	2903.1	51.8	30.7
0°-60°	4681.4	83.5	49.5
0°-90°	5604.0	100.0	59.3
90°-120°	0.0	0.0	0.0
90°-150°	0.0	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	5604.0	100.0	59.3

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2556	2556	2556	2556	2556	
5°	2509	2510	2514	2538	2555	236
15°	2285	2299	2335	2405	2466	643
25°	1970	1990	2053	2139	2223	905
35°	1580	1606	1673	1751	1846	986
45°	1149	1172	1258	1331	1393	892
55°	802	824	884	966	1035	720
65°	496	514	574	615	643	495
75°	248	258	264	287	306	263
85°	50	52	59	61	64	63
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2555.8	2555.8	2555.8	2555.8	2555.8
2.5°	2542.8	2542.8	2539.6	2552.7	2562.6
5°	2508.9	2509.8	2514.3	2538.3	2555.0
7.5°	2465.6	2470.6	2483.7	2516.6	2543.2
10°	2411.9	2418.2	2440.3	2485.9	2524.3
12.5°	2354.6	2363.2	2392.1	2450.7	2500.4
15°	2285.1	2298.7	2334.8	2405.1	2466.1
17.5°	2215.6	2229.2	2273.4	2353.3	2424.1
20°	2136.7	2151.5	2203.9	2290.5	2369.9
22.5°	2055.9	2071.7	2131.2	2219.2	2301.8
25°	1970.2	1990.0	2052.7	2138.9	2223.3
27.5°	1878.6	1897.5	1963.4	2045.1	2129.9
30°	1782.4	1805.9	1870.9	1950.3	2038.3
32.5°	1681.8	1705.7	1772.1	1849.2	1941.3
35°	1580.3	1606.5	1672.8	1750.9	1846.5
37.5°	1472.0	1497.3	1565.4	1649.8	1735.5
40°	1365.5	1391.7	1461.2	1546.0	1620.0
42.5°	1250.9	1279.8	1356.9	1435.9	1500.9
45°	1149.4	1172.4	1257.6	1331.2	1393.0
47.5°	1059.1	1078.5	1157.0	1231.9	1296.0
50°	972.0	989.6	1057.7	1137.2	1207.6
52.5°	890.3	907.9	968.9	1051.4	1124.1
55°	802.3	823.6	883.6	966.1	1034.7
57.5°	722.9	742.8	806.0	884.0	946.7
60°	641.7	663.4	726.5	794.2	847.5
62.5°	567.7	589.8	651.6	706.2	750.5
65°	496.0	513.6	573.6	615.1	642.6
67.5°	431.4	446.8	496.0	524.8	546.5
70°	368.3	381.3	419.2	440.0	449.9
72.5°	305.5	318.6	339.8	352.0	375.0
75°	248.2	258.2	263.6	286.6	305.5
77.5°	189.6	199.9	195.4	221.6	236.0
80°	139.9	143.5	146.7	162.0	172.0
82.5°	92.1	92.1	99.8	107.0	112.9
85°	49.7	51.9	58.7	61.0	64.1
87.5°	18.1	18.1	20.4	21.7	22.2
90°	0.5	0.5	0.5	0.5	0.5

(END OF REPORT)