

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: 168P147

Luminaire Tested: **154/16390/1T5HO**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: 168P147
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: 154/16390/1T5HO
Description: Neo-Ray Fenestra Product Family 1 X 4 with
drop basket.
Light Source: One - F54T5/830/HO - 4400 Lumens - 54 Watts
Ballast/Driver: Sylvania QT 1X54/120 PHO Electronic L.O.B.F. = Unknown

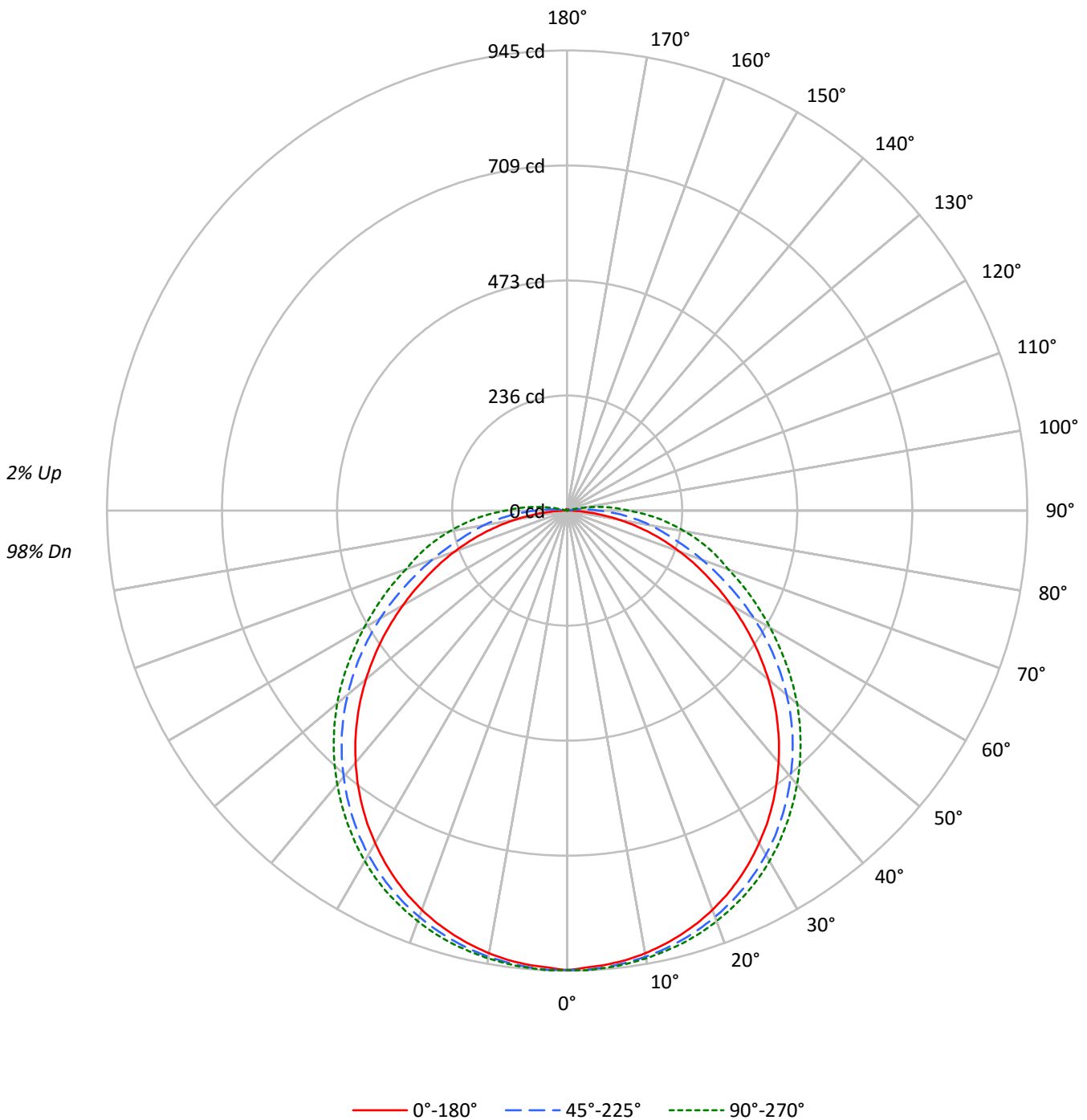
Summary

Lumens per Lamp: 4400 (1 lamp)
Luminaire Lumens: 2965.8 lumens
Efficiency: 67.4%
Efficacy: 50.3 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.31 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 0.9' x L: 3.83' x H: 0.16')
CIE Type: Direct

Input Watts (W): 59
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	80	80	80	80	78	78	78	78	74	74	74	71	71	71	68	68	68	66
1	72	69	65	62	70	67	64	61	64	61	59	61	59	57	58	57	55	54
2	65	59	54	50	63	58	53	50	55	52	48	53	50	47	51	48	46	44
3	59	52	46	41	58	51	45	41	49	44	40	47	43	39	45	41	38	37
4	54	46	40	35	53	45	39	35	43	38	34	41	37	33	40	36	33	31
5	50	41	35	30	48	40	34	30	38	33	29	37	32	29	36	32	28	27
6	46	37	31	26	45	36	30	26	35	29	26	33	29	25	32	28	25	24
7	43	33	27	23	41	33	27	23	32	26	23	30	26	22	29	25	22	21
8	40	30	24	20	39	30	24	20	29	24	20	28	23	20	27	23	20	18
9	37	28	22	18	36	27	22	18	27	22	18	26	21	18	25	21	18	17
10	35	26	20	17	34	25	20	17	25	20	16	24	19	16	23	19	16	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2947	2947	2947
5°	2924	2909	2909
10°	2906	2871	2871
15°	2884	2833	2837
20°	2856	2793	2801
25°	2822	2751	2764
30°	2776	2702	2718
35°	2725	2643	2663
40°	2661	2575	2606
45°	2587	2502	2542
50°	2497	2413	2472
55°	2391	2307	2385
60°	2268	2183	2300
65°	2142	2035	2226
70°	2009	1886	2159
75°	1840	1734	2183
80°	1586	1665	2196
85°	1108	1543	2227



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	89.4	3.0	2.0
10°-20°	257.5	8.7	5.9
20°-30°	393.6	13.3	8.9
30°-40°	478.5	16.1	10.9
40°-50°	501.3	16.9	11.4
50°-60°	458.9	15.5	10.4
60°-70°	363.9	12.3	8.3
70°-80°	246.2	8.3	5.6
80°-90°	128.7	4.3	2.9
90°-100°	39.5	1.3	0.9
100°-110°	3.6	0.1	0.1
110°-120°	1.0	0.0	0.0
120°-130°	1.3	0.0	0.0
130°-140°	1.6	0.1	0.0
140°-150°	1.0	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°	740.4	25.0	16.8
0°-40°	1219.0	41.1	27.7
0°-60°	2179.1	73.5	49.5
0°-90°	2917.9	98.4	66.3
90°-120°	44.0	1.5	1.0
90°-150°	47.9	1.6	1.1
90°-180°	48.0	1.6	1.1
0°-180°	2965.8	100.0	67.4

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	944	944	944	944	944	
5°	936	938	941	942	942	89
15°	902	906	913	918	920	255
25°	835	842	856	866	869	385
35°	736	748	769	782	786	460
45°	610	629	654	672	678	470
55°	465	487	518	541	549	416
65°	316	333	367	402	416	313
75°	176	182	227	281	301	186
85°	46	67	120	169	188	51
90°	3	20	63	108	126	4
95°	2	4	30	66	80	2
105°	2	2	1	0	2	2
115°	2	2	1	0	0	2
125°	2	2	2	1	0	2
135°	3	3	2	2	1	2
145°	4	3	3	2	2	1
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	943.6	943.6	943.6	943.6	943.6
2.5°	939.1	941.1	943.8	944.5	944.6
5°	936.1	938.1	940.7	942.2	942.4
7.5°	930.8	933.1	936.3	938.3	938.8
10°	923.2	926.0	930.2	933.0	933.8
12.5°	913.6	916.8	922.4	926.3	927.2
15°	902.0	905.8	912.8	918.1	919.5
17.5°	888.4	893.0	901.2	907.9	909.7
20°	872.6	878.2	888.0	895.5	897.5
22.5°	854.9	861.1	873.1	881.6	883.7
25°	835.0	841.9	856.2	866.1	868.7
27.5°	812.8	821.1	837.3	848.2	851.3
30°	788.5	798.7	816.5	827.9	831.3
32.5°	763.1	774.5	793.6	805.8	809.3
35°	735.7	748.5	768.7	782.0	785.6
37.5°	706.4	720.8	742.0	756.6	761.0
40°	675.7	691.5	714.1	730.0	734.6
42.5°	643.7	660.8	685.0	702.0	707.2
45°	610.2	628.9	654.5	672.5	678.0
47.5°	575.7	595.5	622.5	642.1	647.8
50°	539.5	560.2	588.5	609.8	616.6
52.5°	502.7	524.3	553.7	576.1	583.4
55°	465.3	487.2	517.8	541.1	549.3
57.5°	427.5	449.2	481.0	505.5	515.3
60°	389.5	410.9	443.6	470.5	481.7
62.5°	352.3	372.1	405.4	435.4	448.2
65°	315.9	333.3	367.1	401.6	416.1
67.5°	280.6	294.7	330.1	368.9	384.2
70°	245.3	256.3	294.7	334.8	352.0
72.5°	211.0	218.8	260.8	306.0	326.8
75°	176.3	181.9	227.0	280.6	301.0
77.5°	142.4	147.4	200.1	253.8	273.4
80°	109.1	116.3	174.1	225.5	245.2
82.5°	76.0	88.9	146.6	197.2	216.7
85°	45.7	66.6	119.5	169.2	188.5
87.5°	19.7	43.2	92.2	139.4	157.5
90°	3.1	19.7	63.4	108.3	126.2
92.5°	1.9	10.7	46.4	87.0	103.4
95°	1.9	4.0	29.7	65.5	80.4
97.5°	1.8	2.2	14.7	43.5	56.6
100°	1.8	1.9	4.3	23.1	34.0
102.5°	1.8	1.7	1.4	7.6	14.5
105°	1.7	1.6	1.2	0.5	2.3
107.5°	1.7	1.5	1.0	0.3	0.0
110°	1.8	1.5	0.9	0.3	0.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.8	1.5	1.0	0.3	0.0
115°	1.8	1.6	1.0	0.4	0.1
117.5°	1.9	1.6	1.1	0.5	0.1
120°	2.0	1.7	1.1	0.6	0.2
122.5°	2.0	1.9	1.3	0.7	0.3
125°	2.2	2.0	1.5	0.9	0.5
127.5°	2.4	2.1	1.6	1.1	0.7
130°	2.5	2.3	1.7	1.2	0.8
132.5°	2.7	2.4	1.9	1.3	1.0
135°	2.9	2.7	2.1	1.5	1.1
137.5°	3.1	2.9	2.2	1.6	1.3
140°	3.3	3.0	2.4	1.7	1.5
142.5°	3.3	3.2	2.5	1.9	1.6
145°	3.6	3.3	2.7	2.0	1.7
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)