

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: 15997

Luminaire Tested: **201IP-S-P-3-T8**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: 15997
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: 201IP-S-P-3-T8
Description: NEORAY DIRECT/INDIRECT SUSPENDED LUMINAIRE SHELL II PERF

WITH SPECULAR REFLECTOR AND WHITE LENS OVER PERFORATIONS
Light Source: THREE PHILIPS 32 WATT T8 LAMPS

F32T8/TL841. LUMEN RATING = 2950 LMS.

Ballast/Driver: ONE MAGNETEK B332IUNVHP-A BALLAST OPERATING AT 120 VAC AND 89 WATTS

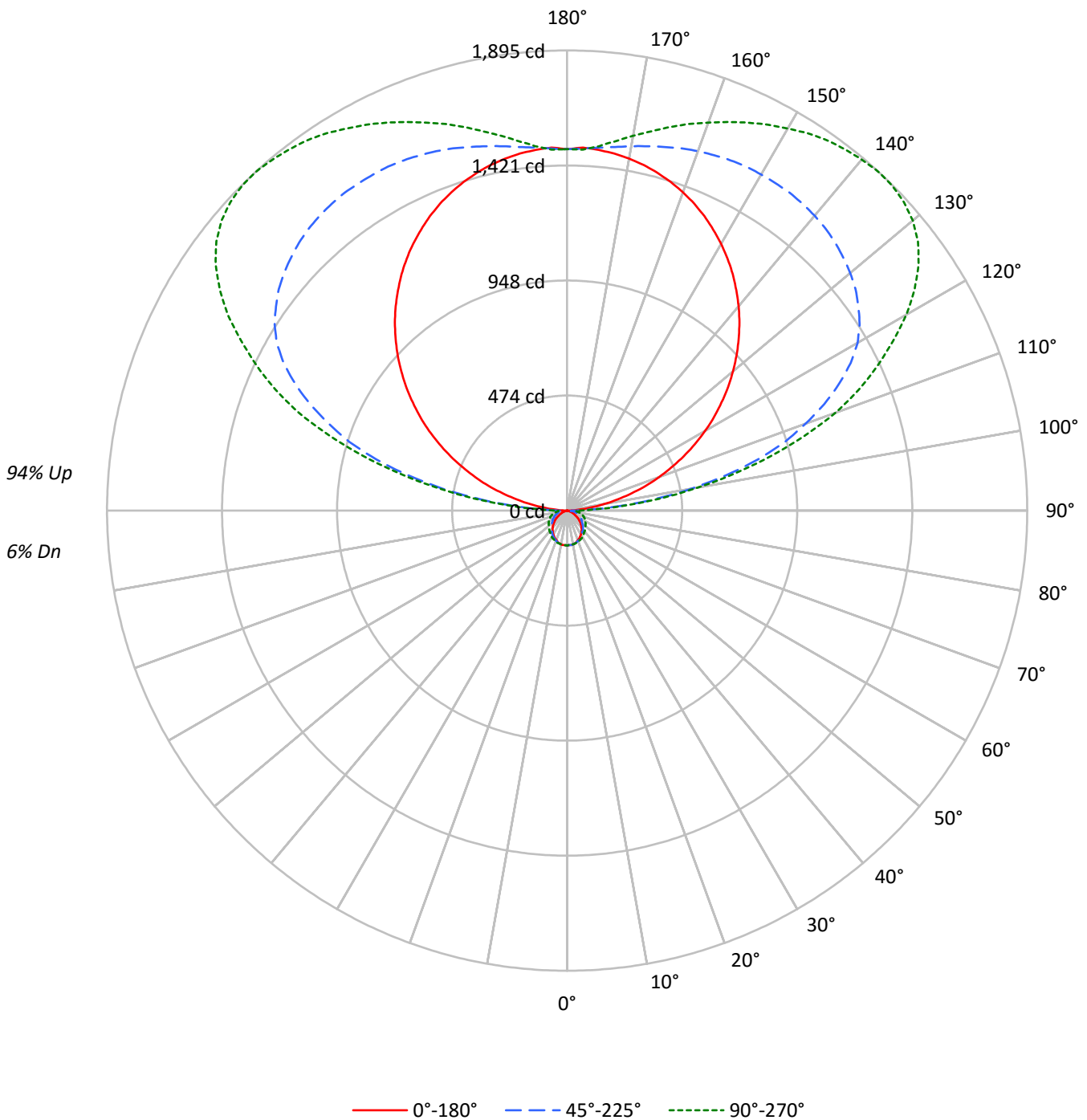
Summary

Lumens per Lamp: 2950 (3 lamps)
Luminaire Lumens: 7192.8 lumens
Efficiency: 81.3%
Efficacy: 80.8 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.29 / 1.35
Luminous Opening: Rectangular w/ Sides (W: 0.88' x L: 4' x H: 0.22')
CIE Type: Indirect

Input Watts (W): 89
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	79	79	79	79	68	68	68	68	48	48	48	30	30	30	13	13	13	5
1	71	68	65	62	62	59	56	54	42	40	39	26	25	24	11	11	11	4
2	65	59	55	51	56	51	48	44	36	34	32	22	21	20	10	9	9	3
3	59	52	46	42	51	45	40	37	32	29	27	20	18	17	9	8	7	3
4	54	46	40	35	46	40	35	31	28	25	23	18	16	14	8	7	6	2
5	49	41	34	30	42	35	30	26	25	22	19	16	14	12	7	6	5	2
6	45	36	30	26	39	31	26	23	22	19	16	14	12	11	6	5	5	2
7	42	32	26	22	36	28	23	20	20	17	14	13	11	9	6	5	4	2
8	38	29	23	19	33	25	20	17	18	15	12	11	9	8	5	4	4	1
9	36	26	21	17	31	23	18	15	16	13	11	10	8	7	5	4	3	1
10	33	24	19	15	28	21	16	13	15	12	10	9	8	6	4	3	3	1

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	440	440	440
5°	435	430	432
10°	436	421	419
15°	429	413	412
20°	413	401	407
25°	404	386	394
30°	390	373	389
35°	370	350	377
40°	350	340	369
45°	325	328	364
50°	296	308	360
55°	268	298	367
60°	218	295	372
65°	168	287	380
70°	127	282	386
75°	86	274	383
80°	39	258	385
85°	11	213	380



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	13.6	0.2	0.2
10°-20°	38.8	0.5	0.4
20°-30°	58.2	0.8	0.7
30°-40°	69.1	1.0	0.8
40°-50°	71.0	1.0	0.8
50°-60°	65.5	0.9	0.7
60°-70°	55.2	0.8	0.6
70°-80°	40.8	0.6	0.5
80°-90°	24.2	0.3	0.3
90°-100°	231.7	3.2	2.6
100°-110°	743.1	10.3	8.4
110°-120°	1097.1	15.3	12.4
120°-130°	1228.6	17.1	13.9
130°-140°	1166.3	16.2	13.2
140°-150°	981.7	13.6	11.1
150°-160°	726.7	10.1	8.2
160°-170°	437.6	6.1	4.9
170°-180°	143.7	2.0	1.6
0°-30°	110.5	1.5	1.2
0°-40°	179.7	2.5	2.0
0°-60°	316.1	4.4	3.6
0°-90°	436.3	6.1	4.9
90°-120°	2071.8	28.8	23.4
90°-150°	5448.5	75.7	61.6
90°-180°	6757.0	93.9	76.4
0°-180°	7192.8	100.0	81.3

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	144	144	144	144	144	
5°	142	143	143	143	144	14
15°	138	136	138	138	139	38
25°	123	123	126	129	130	56
35°	103	105	108	117	119	65
45°	79	82	92	101	105	62
55°	54	59	73	87	93	47
65°	26	38	58	74	81	27
75°	9	19	42	57	63	10
85°	0	6	21	35	42	1
90°	0	7	25	37	39	3
95°	56	187	221	225	242	67
105°	275	620	814	847	870	292
115°	529	867	1236	1374	1410	524
125°	776	1054	1464	1692	1767	694
135°	999	1227	1561	1811	1893	770
145°	1189	1354	1598	1790	1863	743
155°	1337	1428	1592	1716	1762	616
165°	1440	1471	1550	1612	1635	406
175°	1491	1489	1500	1504	1506	142
180°	1488	1488	1488	1488	1488	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	144.0	144.0	144.0	144.0	144.0
2.5°	143.2	143.2	142.3	142.3	142.3
5°	142.3	142.8	142.8	143.3	143.7
7.5°	143.2	140.9	142.8	143.3	141.4
10°	141.8	140.5	140.9	140.9	140.9
12.5°	139.0	138.1	139.5	140.0	140.4
15°	137.6	136.2	138.1	137.6	139.0
17.5°	133.1	133.4	135.0	136.7	137.6
20°	129.3	130.7	132.9	134.8	136.4
22.5°	126.0	127.4	129.3	131.5	133.4
25°	122.8	122.8	126.0	128.8	130.3
27.5°	117.3	118.7	122.3	126.1	129.3
30°	114.0	115.5	118.7	123.3	126.0
32.5°	108.9	110.3	114.1	120.0	122.3
35°	102.9	104.8	107.9	116.8	118.7
37.5°	98.7	99.7	106.5	112.1	114.1
40°	91.7	94.5	100.6	108.5	111.7
42.5°	87.7	88.1	96.4	103.7	108.9
45°	79.2	82.5	92.2	100.6	105.3
47.5°	73.3	77.5	87.1	97.4	101.6
50°	66.3	70.9	81.5	93.1	98.2
52.5°	60.9	65.1	77.5	89.8	95.4
55°	54.3	59.0	73.2	86.7	93.3
57.5°	45.0	53.5	70.0	84.3	88.6
60°	39.0	47.9	66.3	80.2	87.2
62.5°	32.6	42.3	61.8	77.0	83.4
65°	26.0	37.7	58.0	74.2	80.6
67.5°	21.9	32.6	53.3	70.5	75.6
70°	16.4	27.4	50.2	67.2	72.8
72.5°	13.1	23.2	44.6	62.3	68.1
75°	8.8	19.2	41.8	56.7	62.7
77.5°	6.2	16.8	37.7	52.9	57.5
80°	2.9	13.1	32.6	46.9	52.9
82.5°	0.5	9.9	27.0	41.8	45.5
85°	0.5	5.7	21.0	35.3	41.8
87.5°	0.5	2.0	15.9	29.8	35.4
90°	0.5	6.8	25.4	37.1	39.3
92.5°	21.0	70.9	94.6	98.2	108.4
95°	55.6	186.6	220.9	224.7	241.7
97.5°	101.5	313.0	368.6	374.6	392.1
100°	156.2	455.7	520.0	572.3	547.3
102.5°	213.6	502.8	669.5	645.0	708.3
105°	274.6	620.0	813.5	846.7	870.5
107.5°	339.4	695.4	939.8	1001.9	1026.8
110°	402.9	754.7	1044.5	1142.5	1174.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	465.8	813.5	1145.8	1267.5	1300.9
115°	529.2	866.7	1236.1	1374.1	1410.2
117.5°	593.2	919.0	1316.2	1479.6	1512.9
120°	656.1	970.8	1380.6	1569.4	1613.9
122.5°	717.2	1032.3	1428.3	1664.8	1696.3
125°	776.1	1053.7	1464.3	1692.1	1767.1
127.5°	835.2	1109.2	1497.3	1750.0	1820.8
130°	891.3	1150.5	1521.7	1780.9	1858.2
132.5°	946.4	1190.8	1542.6	1800.9	1880.9
135°	998.6	1226.8	1561.1	1811.1	1892.6
137.5°	1050.4	1260.6	1575.0	1811.4	1894.8
140°	1098.7	1291.3	1585.2	1809.3	1887.0
142.5°	1143.9	1320.5	1592.4	1803.6	1876.4
145°	1188.9	1354.2	1597.6	1790.2	1862.9
147.5°	1230.0	1364.8	1598.1	1781.9	1842.5
150°	1268.5	1392.6	1598.1	1760.1	1816.6
152.5°	1303.7	1410.6	1597.1	1738.9	1791.6
155°	1337.4	1427.6	1591.7	1716.1	1762.4
157.5°	1368.0	1440.7	1583.8	1691.5	1732.3
160°	1394.9	1453.3	1575.0	1666.6	1700.0
162.5°	1418.5	1463.4	1563.9	1639.7	1669.4
165°	1439.8	1471.2	1550.3	1612.5	1635.1
167.5°	1457.3	1479.6	1537.0	1575.4	1599.5
170°	1471.7	1481.1	1523.6	1561.5	1567.0
172.5°	1483.4	1487.5	1509.8	1527.7	1534.7
175°	1490.7	1488.9	1500.4	1503.7	1506.4
177.5°	1496.3	1490.3	1491.7	1487.5	1487.5
180°	1488.1	1488.1	1488.1	1488.1	1488.1

(END OF REPORT)