

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: NEO-RAY

Report Number: P199507

Luminaire Tested: **S124-DIW-ULO-2-30-0048-1D-UDD-1-5-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199507  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P28062 P28062)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124-DIW-ULO-2-30-0048-1D-UDD-1-5-W  
Description: DEFINE 4-INCH DIRECT/INDIRECT WALL LED LUMINAIRE  
UPLIGHT LLO-3000K, SATIN WHITE DIFFUSER  
DOWNLIGHT LL2-3000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

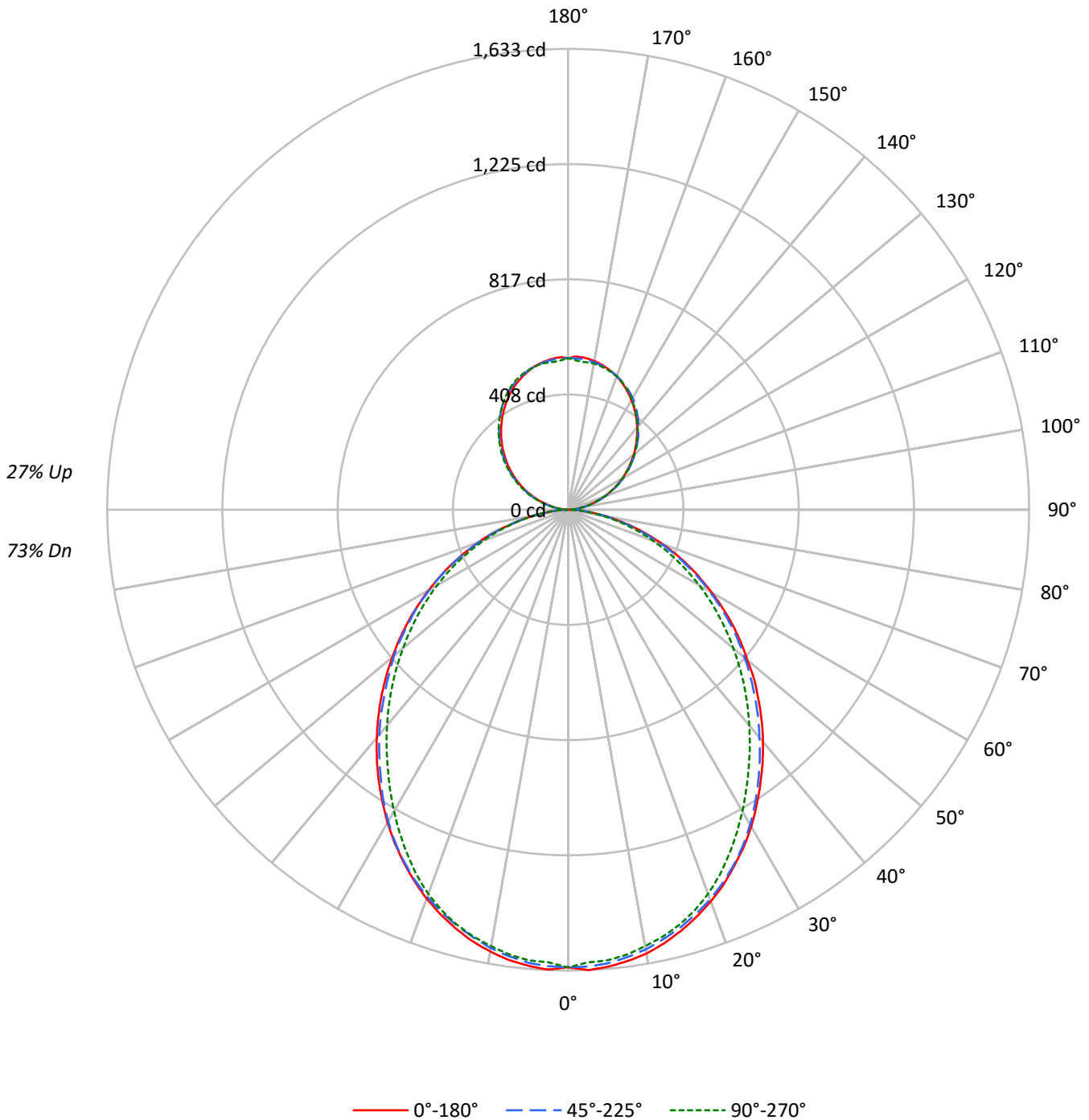
Lumens per Lamp: N/A  
Luminaire Lumens: 5500.0 lumens  
Efficiency: N/A  
Efficacy: 99.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.14 / 1.28  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4.08' x H: 0.38')  
CIE Type: Semi-Direct

Input Watts (W): 55.1  
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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73
1	103	99	95	91	98	94	90	87	85	82	79	76	74	72	69	67	66	62
2	94	86	80	75	89	82	77	72	74	70	66	67	64	61	61	58	55	52
3	86	76	68	62	81	72	66	60	66	60	56	60	55	51	54	50	47	44
4	79	68	59	53	74	64	57	51	59	53	48	53	48	44	48	44	41	38
5	72	60	52	46	68	58	50	44	53	46	41	48	43	39	43	39	36	33
6	67	54	46	40	63	52	44	39	48	41	36	43	38	34	39	35	32	29
7	62	49	41	35	59	47	40	34	43	37	32	40	34	30	36	32	28	26
8	58	45	37	31	55	43	36	30	40	33	29	36	31	27	33	29	25	23
9	54	41	33	28	51	40	32	27	36	30	26	33	28	24	31	26	23	21
10	50	38	30	25	48	36	29	25	34	28	23	31	26	22	29	24	21	19

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

	0°	90°	180°
0°	12822	12822	12822
5°	12799	11583	12776
10°	12618	10523	12564
15°	12344	9577	12282
20°	12030	8651	11942
25°	11647	7714	11540
30°	11246	6832	11102
35°	10768	6019	10617
40°	10287	5299	10109
45°	9770	4638	9578
50°	9185	4014	9022
55°	8663	3432	8435
60°	8013	2876	7785
65°	7371	2333	7080
70°	6551	1795	6244
75°	5509	1262	5109
80°	4138	768	3875
85°	2430	340	2302



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	152.6	2.8
10°-20°	430.3	7.8
20°-30°	630.4	11.5
30°-40°	722.5	13.1
40°-50°	712.3	13.0
50°-60°	614.0	11.2
60°-70°	447.7	8.1
70°-80°	244.1	4.4
80°-90°	64.1	1.2
90°-100°	27.9	0.5
100°-110°	100.1	1.8
110°-120°	177.1	3.2
120°-130°	235.5	4.3
130°-140°	264.8	4.8
140°-150°	260.4	4.7
150°-160°	219.7	4.0
160°-170°	145.8	2.7
170°-180°	50.8	0.9
0°-30°	1213.4	22.1
0°-40°	1935.9	35.2
0°-60°	3262.1	59.3
0°-90°	4018.0	73.1
90°-120°	305.1	5.5
90°-150°	1065.8	19.4
90°-180°	1482.0	26.9
0°-180°	5500.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1621	1621	1621	1621	1621	
5°	1625	1614	1603	1612	1622	154
15°	1545	1533	1522	1525	1537	435
25°	1392	1388	1348	1376	1379	641
35°	1187	1174	1114	1158	1170	743
45°	954	934	881	918	935	736
55°	711	699	649	684	692	634
65°	472	461	425	449	453	466
75°	242	233	215	224	224	257
85°	55	56	52	53	52	62
90°	2	4	3	4	2	5
95°	23	26	25	23	18	25
105°	93	97	96	94	86	98
115°	179	183	180	178	171	177
125°	262	268	265	261	254	234
135°	342	349	346	342	332	264
145°	415	424	418	418	406	260
155°	478	483	481	478	469	220
165°	521	520	517	516	515	147
175°	543	536	526	535	539	52
180°	537	537	537	537	537	



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CATALOG NUMBER: S124-DIW-ULO-2-30-0048-1D-UDD-1-5-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1621.3	1621.3	1621.3	1621.3	1621.3	1621.3	1621.3	1621.3	1621.3
2.5°	1633.1	1614.4	1620.3	1616.4	1605.6	1616.4	1619.3	1613.5	1631.1
5°	1625.2	1607.6	1613.5	1607.6	1602.7	1606.6	1611.5	1604.6	1622.3
7.5°	1613.5	1594.8	1599.7	1594.8	1589.9	1593.8	1596.8	1590.9	1609.5
10°	1596.8	1577.2	1582.1	1576.2	1570.3	1574.2	1577.2	1571.3	1589.9
12.5°	1573.3	1554.6	1558.6	1554.6	1549.7	1550.7	1552.7	1546.8	1566.4
15°	1544.8	1526.2	1533.1	1529.2	1522.3	1526.2	1525.2	1518.4	1537.0
17.5°	1512.5	1494.8	1502.7	1498.8	1489.0	1494.8	1494.8	1484.1	1503.7
20°	1477.2	1458.6	1469.4	1459.6	1448.8	1454.7	1459.6	1446.8	1466.4
22.5°	1438.0	1418.4	1431.1	1413.5	1401.7	1408.6	1420.3	1406.6	1424.3
25°	1391.9	1376.2	1388.0	1363.5	1347.8	1357.6	1376.2	1362.5	1379.2
27.5°	1346.8	1331.1	1340.9	1313.5	1291.9	1304.7	1328.2	1316.4	1331.1
30°	1296.8	1284.1	1289.0	1256.7	1234.1	1247.8	1275.3	1268.4	1280.2
32.5°	1241.9	1232.1	1232.1	1197.8	1174.3	1190.0	1219.4	1217.4	1225.3
35°	1187.1	1181.2	1174.3	1137.1	1114.5	1129.2	1157.6	1165.5	1170.4
37.5°	1131.2	1127.3	1114.5	1078.2	1056.7	1072.4	1098.8	1110.6	1113.5
40°	1073.3	1071.4	1053.7	1019.4	997.9	1013.6	1041.0	1055.7	1054.7
42.5°	1014.5	1016.5	994.9	961.6	940.0	955.7	981.2	1000.8	995.9
45°	953.8	959.6	934.2	903.8	881.2	897.9	918.5	943.0	935.1
47.5°	894.9	901.8	875.3	844.0	822.4	840.1	860.6	887.1	875.3
50°	828.3	842.0	816.5	785.2	763.6	780.3	804.8	827.3	813.6
52.5°	770.5	780.3	757.7	727.3	706.7	720.5	745.0	767.5	752.8
55°	710.7	721.4	698.9	668.5	648.9	662.6	684.2	706.7	692.0
57.5°	647.9	658.7	638.1	610.7	592.1	606.8	629.3	645.0	631.3
60°	587.2	600.9	578.3	551.9	536.2	547.9	565.6	584.2	570.5
62.5°	528.3	541.1	519.5	495.0	480.3	491.1	509.7	524.4	511.7
65°	471.5	479.3	460.7	438.2	425.4	432.3	448.9	465.6	452.9
67.5°	413.7	421.5	402.9	383.3	370.5	377.4	391.1	406.8	395.0
70°	354.8	361.7	346.0	328.4	317.6	324.5	337.2	349.0	338.2
72.5°	299.0	303.9	289.2	275.4	267.6	272.5	281.3	292.1	287.2
75°	242.1	248.0	233.3	221.5	214.7	216.6	223.5	232.3	224.5
77.5°	188.2	194.1	182.3	173.5	169.6	170.6	175.5	182.3	172.5
80°	138.2	143.1	136.3	128.4	124.5	126.4	129.4	133.3	129.4
82.5°	93.1	98.0	93.1	88.2	85.3	87.2	88.2	90.2	87.2
85°	54.9	58.8	55.9	52.9	52.0	52.0	52.9	54.9	52.0
87.5°	24.5	27.4	25.5	23.5	20.6	21.6	22.5	24.5	22.5
90°	2.0	4.9	3.9	2.9	2.9	2.9	3.9	4.9	2.0
92.5°	10.5	11.9	12.2	11.2	11.2	10.8	10.1	9.8	6.3
95°	23.1	25.2	25.5	25.5	24.8	24.1	23.4	21.7	17.8
97.5°	37.4	39.9	40.6	39.9	40.2	39.5	37.8	36.0	32.2
100°	53.9	57.0	57.7	57.0	57.4	55.6	54.9	53.2	48.6
102.5°	72.1	75.9	76.3	75.6	75.6	74.2	73.5	71.4	66.8
105°	92.7	96.9	97.3	95.9	95.9	94.5	93.8	91.7	86.4
107.5°	113.7	117.9	117.9	116.5	116.5	115.4	114.0	112.6	107.4
110°	135.4	138.9	139.6	137.8	137.5	136.4	135.0	132.9	128.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	157.1	160.6	161.3	159.2	158.8	156.7	156.4	153.9	149.4
115°	178.8	182.3	183.3	180.9	180.2	177.7	177.7	175.3	171.1
117.5°	199.8	204.0	205.0	202.2	201.9	199.8	198.4	196.3	191.7
120°	220.8	226.0	226.7	223.5	223.2	220.8	220.1	217.3	212.7
122.5°	241.7	247.0	248.0	245.2	244.2	241.0	240.7	238.2	233.3
125°	261.7	267.6	267.6	266.2	265.2	262.7	261.3	258.5	253.6
127.5°	282.3	288.6	288.3	287.2	286.2	282.7	281.6	278.8	273.6
130°	302.6	308.2	308.2	307.5	306.8	303.7	301.9	299.1	293.2
132.5°	322.6	328.2	328.9	327.1	326.4	322.2	322.6	319.1	313.1
135°	342.1	347.0	348.8	346.0	345.6	341.1	342.5	337.9	332.0
137.5°	361.4	365.2	368.4	364.9	364.5	360.0	362.1	356.1	350.9
140°	380.3	383.4	387.6	383.4	382.7	378.5	380.6	374.3	369.8
142.5°	398.1	400.9	406.2	401.6	400.6	396.7	399.2	391.8	387.6
145°	415.3	417.4	424.4	419.5	418.1	414.6	417.7	408.6	405.5
147.5°	432.4	433.5	441.5	437.0	434.9	432.1	435.2	425.1	422.6
150°	448.5	448.5	456.5	453.0	451.3	448.1	450.2	440.5	438.7
152.5°	463.5	462.8	470.2	468.1	467.0	463.5	464.2	455.1	454.1
155°	477.5	476.1	482.8	481.7	481.0	477.5	477.5	468.4	468.8
157.5°	490.8	488.0	494.3	494.0	492.6	489.8	489.1	481.0	482.1
160°	502.4	499.9	504.1	503.4	502.4	499.6	499.6	492.6	494.3
162.5°	512.5	509.4	512.9	510.8	510.4	507.3	508.7	502.7	505.2
165°	521.3	518.1	519.9	517.1	516.7	513.9	516.4	512.2	515.0
167.5°	529.0	525.5	525.1	522.7	522.0	519.9	522.7	520.2	523.4
170°	534.9	531.4	530.4	526.2	525.5	523.7	527.9	527.2	530.0
172.5°	539.5	536.0	533.5	528.6	526.2	526.5	532.1	532.1	535.3
175°	542.6	538.8	536.0	531.1	526.5	529.3	535.3	535.6	539.1
177.5°	543.3	539.5	537.0	532.5	530.7	531.1	537.4	537.4	541.2
180°	536.7	536.7	536.7	536.7	536.7	536.7	536.7	536.7	536.7

(END OF REPORT)