

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: P199401

Luminaire Tested: **S122-DIW-U1-LO-40-0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199401  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P27883 P27986)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122-DIW-U1-LO-40-0048-1D-UDD-1-NA-W  
Description: DEFINE 2-INCH DIRECT/INDIRECT WALL LED LUMINAIRE  
UPLIGHT LL1-4000K, NO LENS  
DOWNLIGHT LLO-4000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

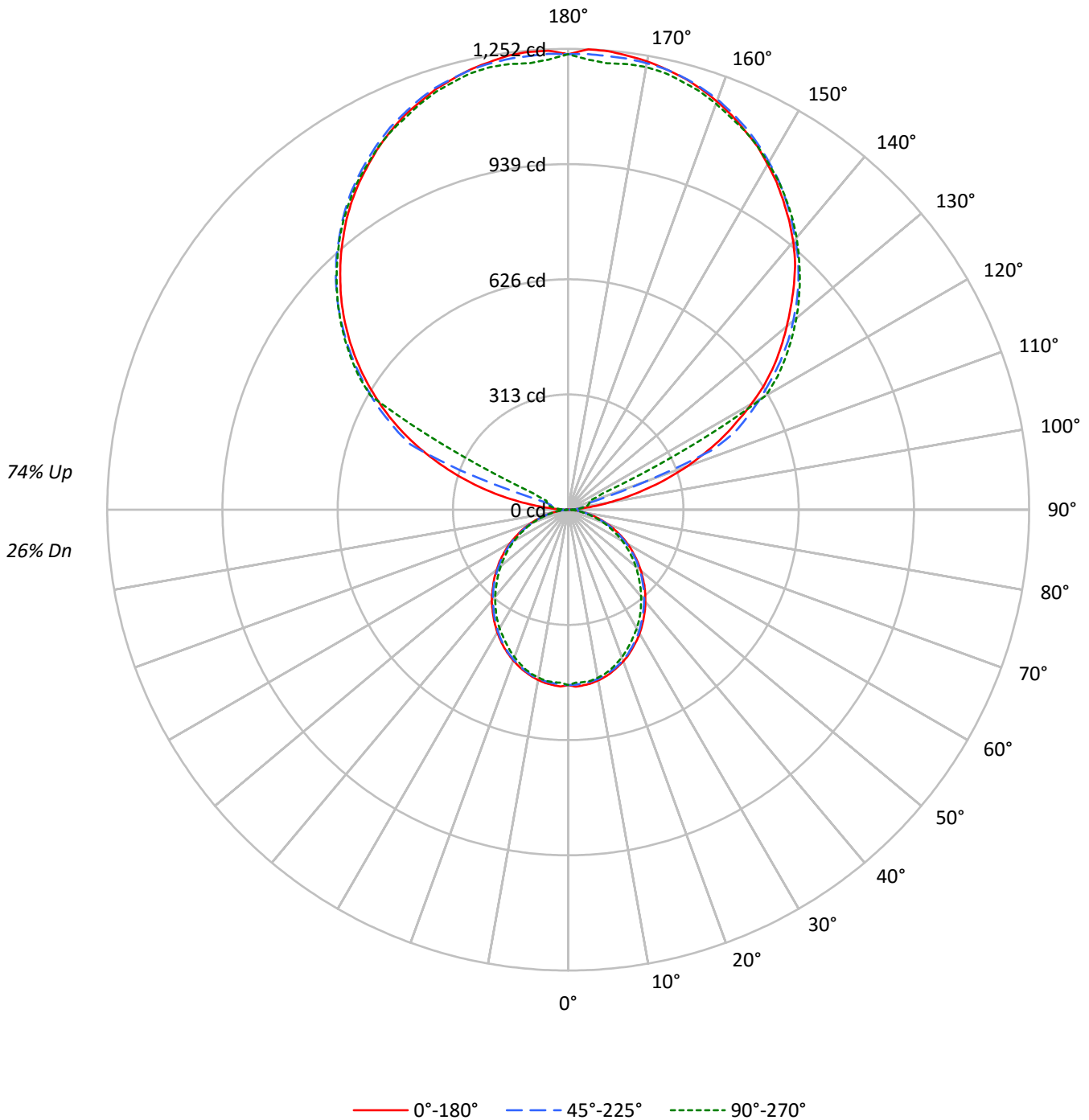
Lumens per Lamp: N/A  
Luminaire Lumens: 4737.6 lumens  
Efficiency: N/A  
Efficacy: 122.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.17 / 1.31  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4.08' x H: 0.38')  
CIE Type: Semi-Indirect

Input Watts (W): 38.8  
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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	88	85	81	82	79	76	73	61	59	57	45	44	43	30	29	29	22
2	84	77	71	66	75	69	64	60	54	50	47	39	37	35	26	25	24	18
3	77	68	61	55	68	61	55	50	47	43	40	35	32	30	23	22	21	16
4	70	60	52	46	62	54	47	42	42	37	34	31	28	26	21	19	18	13
5	64	53	45	40	57	48	41	36	37	33	29	28	25	22	19	17	15	12
6	59	47	40	34	52	43	36	31	33	29	25	25	22	19	17	15	13	10
7	54	43	35	30	48	38	32	27	30	25	22	23	19	17	15	13	12	9
8	50	39	31	26	45	35	28	24	27	23	19	21	17	15	14	12	11	8
9	47	35	28	23	42	32	25	21	25	20	17	19	16	13	13	11	10	7
10	44	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	9	7

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

	0°	90°	180°
0°	7535	7535	7535
5°	7543	6241	7532
10°	7441	5329	7423
15°	7300	4584	7271
20°	7135	3945	7098
25°	6936	3404	6900
30°	6734	2959	6677
35°	6489	2560	6429
40°	6251	2202	6194
45°	6000	1884	5894
50°	5720	1598	5598
55°	5407	1338	5317
60°	5087	1097	4956
65°	4699	862	4540
70°	4217	648	4014
75°	3523	436	3286
80°	2623	254	2384
85°	1629	100	1372



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.9	0.9
10°-20°	127.1	2.7
20°-30°	187.5	4.0
30°-40°	218.7	4.6
40°-50°	219.1	4.6
50°-60°	191.7	4.0
60°-70°	141.0	3.0
70°-80°	76.5	1.6
80°-90°	19.6	0.4
90°-100°	30.4	0.6
100°-110°	139.0	2.9
110°-120°	404.0	8.5
120°-130°	631.2	13.3
130°-140°	680.5	14.4
140°-150°	643.1	13.6
150°-160°	524.4	11.1
160°-170°	341.3	7.2
170°-180°	117.6	2.5
0°-30°	359.6	7.6
0°-40°	578.3	12.2
0°-60°	989.1	20.9
0°-90°	1226.2	25.9
90°-120°	573.4	12.1
90°-150°	2528.2	53.4
90°-180°	3511.0	74.1
0°-180°	4737.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	476	476	476	476	476	
5°	479	473	470	473	478	45
15°	457	453	449	452	455	129
25°	414	410	400	409	412	191
35°	358	353	342	350	354	224
45°	293	288	274	285	288	226
55°	222	218	204	214	218	199
65°	150	144	134	140	145	149
75°	77	74	67	69	72	82
85°	18	17	15	15	16	21
90°	1	2	3	2	0	2
95°	30	24	28	29	52	42
105°	223	47	57	49	262	237
115°	461	500	102	517	493	454
125°	682	703	721	715	699	608
135°	868	885	890	893	875	669
145°	1020	1030	1031	1037	1024	639
155°	1136	1144	1136	1145	1137	524
165°	1215	1215	1203	1213	1212	343
175°	1250	1237	1217	1237	1248	119
180°	1238	1238	1238	1238	1238	



TEST NUMBER: P199401

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4
2.5°	481.2	474.5	475.6	474.2	470.5	473.8	475.3	474.2	480.4
5°	478.9	472.3	473.4	471.6	470.5	471.6	473.1	471.6	478.2
7.5°	476.0	468.6	470.8	469.7	468.6	469.4	470.5	467.9	474.9
10°	470.8	463.5	466.8	464.6	463.5	464.2	466.1	462.4	469.7
12.5°	464.9	457.6	460.9	458.3	457.2	457.2	460.5	456.5	463.1
15°	456.8	450.9	453.2	450.6	448.7	449.8	452.4	449.5	455.0
17.5°	447.6	442.5	445.1	441.0	437.7	440.3	443.9	440.6	446.2
20°	438.1	432.2	434.7	429.2	426.3	428.5	433.3	430.7	435.8
22.5°	427.4	421.8	424.1	416.7	413.7	415.6	422.6	420.0	424.8
25°	414.5	410.1	410.4	403.1	399.7	401.9	409.3	407.8	412.3
27.5°	401.9	397.5	397.9	389.4	385.7	388.7	396.1	394.9	399.0
30°	388.3	384.3	383.9	375.4	372.5	374.3	381.7	381.7	385.0
32.5°	373.2	369.9	368.1	360.3	357.4	359.6	365.8	366.9	369.5
35°	357.7	355.5	352.9	345.6	341.5	344.5	350.4	351.8	354.4
37.5°	342.3	339.7	336.7	329.4	324.9	328.6	333.8	336.4	338.2
40°	326.1	324.2	320.9	313.5	308.0	311.7	317.6	320.5	323.1
42.5°	309.5	308.4	304.3	296.6	291.1	295.1	301.4	303.9	305.1
45°	292.9	291.4	287.7	279.6	273.7	278.2	284.8	287.4	287.7
47.5°	274.5	274.8	270.4	262.3	256.4	260.8	266.7	270.4	271.9
50°	257.9	258.3	253.1	245.0	239.1	242.4	249.4	253.1	252.4
52.5°	240.2	241.3	235.8	227.7	221.8	225.1	232.1	236.2	236.5
55°	221.8	223.6	217.7	209.6	204.5	207.8	213.7	218.5	218.1
57.5°	204.1	205.6	199.7	192.3	187.2	190.1	195.3	201.5	200.1
60°	186.4	187.9	181.6	174.3	169.8	171.3	177.2	182.4	181.6
62.5°	168.4	169.8	163.2	156.6	151.4	153.6	158.8	165.1	163.2
65°	150.3	151.4	144.4	138.5	134.1	136.3	140.0	146.6	145.2
67.5°	132.3	133.0	126.7	121.2	117.5	118.6	121.9	127.5	126.7
70°	114.2	114.9	109.1	103.9	100.6	101.7	104.3	109.4	108.7
72.5°	95.8	96.9	91.0	86.2	82.9	84.0	85.8	90.6	89.5
75°	77.4	78.1	73.7	70.0	67.1	67.4	68.9	72.6	72.2
77.5°	60.4	62.3	57.5	54.2	51.9	52.3	54.2	56.0	55.3
80°	43.8	46.1	42.7	40.2	38.3	37.9	39.4	40.9	39.8
82.5°	30.9	31.3	29.1	27.3	25.4	25.4	26.5	27.6	26.5
85°	18.4	19.2	17.3	15.8	14.7	14.4	15.1	16.2	15.5
87.5°	8.8	9.2	7.4	6.6	5.5	5.2	5.5	6.3	6.3
90°	0.7	1.8	1.8	2.2	2.6	2.6	2.2	2.2	0.4
92.5°	4.3	10.0	10.0	12.2	12.9	15.1	17.2	17.9	19.4
95°	30.1	21.5	24.4	26.5	28.0	30.1	28.7	26.5	52.3
97.5°	67.4	27.2	34.4	35.8	38.0	38.7	38.7	30.1	95.4
100°	112.6	31.5	40.9	46.6	48.0	48.0	43.7	67.4	147.0
102.5°	165.6	140.5	44.5	51.6	54.5	52.3	46.6	228.7	204.3
105°	223.0	253.1	47.3	54.5	57.4	55.9	48.8	281.8	262.4
107.5°	283.2	306.9	50.2	57.4	60.2	58.1	59.5	336.3	320.5
110°	343.4	363.5	225.1	59.5	62.4	59.5	311.9	391.5	378.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	400.8	421.6	423.0	63.1	63.8	68.1	463.9	447.4	436.6
115°	461.0	478.2	500.5	291.1	101.8	320.5	516.9	502.6	493.3
117.5°	516.2	532.7	549.9	511.9	390.0	557.1	567.9	557.1	547.8
120°	574.3	590.8	601.6	618.8	620.2	620.2	618.0	609.4	599.4
122.5°	631.7	642.4	651.0	668.2	674.0	667.5	666.1	658.2	650.3
125°	681.9	691.9	703.4	714.8	720.6	714.1	714.8	704.8	699.1
127.5°	729.2	737.8	752.8	760.0	765.7	758.6	761.4	750.7	746.4
130°	775.1	780.8	798.0	803.7	808.8	804.5	806.6	795.1	791.6
132.5°	820.2	828.1	842.5	844.6	850.3	843.9	851.8	836.0	834.6
135°	867.6	874.0	884.8	885.5	889.8	886.2	892.6	879.7	875.4
137.5°	912.0	914.9	924.2	921.3	927.8	922.0	931.4	918.5	915.6
140°	950.7	952.9	959.3	960.8	965.1	960.0	967.2	954.3	952.9
142.5°	986.6	989.4	995.2	994.5	999.5	994.5	1003.1	991.6	990.2
145°	1020.3	1024.6	1029.6	1027.4	1031.0	1028.2	1036.8	1024.6	1023.9
147.5°	1054.0	1055.4	1062.6	1059.0	1061.1	1057.6	1066.9	1056.8	1055.4
150°	1083.4	1086.2	1090.5	1086.2	1086.9	1084.8	1094.1	1085.5	1084.1
152.5°	1112.8	1112.0	1118.5	1109.9	1113.5	1109.9	1120.6	1112.0	1112.0
155°	1136.4	1135.7	1143.6	1134.3	1135.7	1132.8	1145.0	1135.0	1137.1
157.5°	1160.1	1156.5	1165.8	1156.5	1153.6	1155.8	1165.1	1155.8	1160.1
160°	1180.9	1177.3	1185.9	1175.9	1173.7	1175.1	1185.2	1176.6	1178.0
162.5°	1198.8	1193.8	1201.7	1190.9	1190.9	1188.8	1201.7	1193.1	1197.4
165°	1214.6	1208.8	1215.3	1204.5	1203.1	1201.7	1213.1	1207.4	1211.7
167.5°	1226.0	1220.3	1226.0	1213.9	1215.3	1212.4	1223.9	1220.3	1225.3
170°	1236.8	1229.6	1231.8	1221.0	1221.0	1218.9	1231.1	1227.5	1234.6
172.5°	1244.0	1236.1	1236.1	1223.9	1221.0	1222.5	1235.4	1234.6	1244.7
175°	1250.4	1239.7	1236.8	1225.3	1217.4	1224.6	1236.8	1239.0	1248.3
177.5°	1251.9	1241.8	1239.0	1226.0	1223.9	1224.6	1239.7	1240.4	1248.3
180°	1237.5	1237.5	1237.5	1237.5	1237.5	1237.5	1237.5	1237.5	1237.5

(END OF REPORT)