

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: P199430

Luminaire Tested: **S122-DIW-ULO-2-40-0048-1D-UDD-1-5-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199430  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P27883 P27883)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122-DIW-ULO-2-40-0048-1D-UDD-1-5-W  
Description: DEFINE 2-INCH DIRECT/INDIRECT WALL LED LUMINAIRE  
UPLIGHT LLO-4000K, SATIN WHITE DIFFUSER  
DOWNLIGHT LL2-4000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

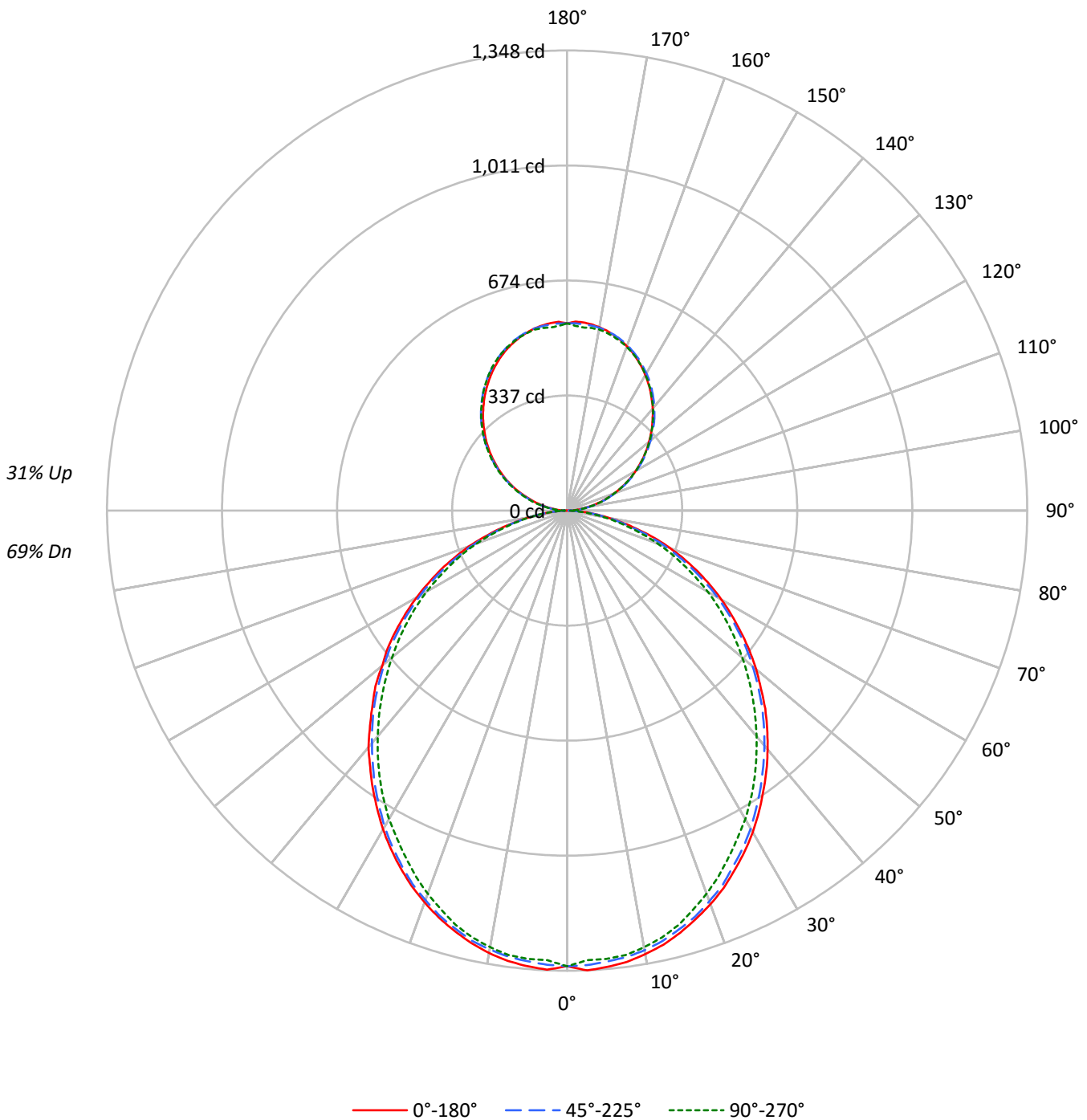
Lumens per Lamp: N/A  
Luminaire Lumens: 4983.1 lumens  
Efficiency: N/A  
Efficacy: 90.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.17 / 1.31  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4.08' x H: 0.38')  
CIE Type: Semi-Direct

Input Watts (W): 55.1  
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	112	112	112	112	105	105	105	105	94	94	94	83	83	83	74	74	74
1	102	98	94	90	96	92	89	86	83	80	77	73	71	70	65	64	62
2	93	85	79	74	88	81	75	70	72	68	64	65	61	58	57	55	52
3	85	75	68	61	80	71	64	59	64	58	54	57	53	49	51	48	45
4	78	67	58	52	73	63	56	50	57	51	46	51	46	42	45	42	39
5	71	59	51	45	67	56	49	43	51	45	40	46	41	37	41	37	34
6	66	53	45	39	62	51	43	38	46	40	35	41	36	32	37	33	30
7	61	48	40	34	58	46	39	33	42	35	31	38	33	29	34	30	26
8	57	44	36	31	53	42	35	30	38	32	28	35	29	26	31	27	24
9	53	40	33	27	50	39	31	26	35	29	25	32	27	23	29	25	21
10	50	37	30	25	47	35	29	24	32	26	22	30	24	21	27	23	19

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

	0°	90°	180°
0°	21110	21110	21110
5°	21136	17486	21103
10°	20850	14932	20801
15°	20455	12844	20374
20°	19990	11051	19889
25°	19434	9538	19330
30°	18869	8290	18708
35°	18183	7174	18016
40°	17513	6170	17354
45°	16813	5279	16516
50°	16026	4477	15682
55°	15148	3749	14897
60°	14254	3074	13888
65°	13169	2414	12716
70°	11816	1815	11244
75°	9867	1222	9207
80°	7354	711	6678
85°	4568	281	3842



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.8	2.5
10°-20°	356.2	7.1
20°-30°	525.4	10.5
30°-40°	612.7	12.3
40°-50°	614.0	12.3
50°-60°	537.1	10.8
60°-70°	395.2	7.9
70°-80°	214.2	4.3
80°-90°	54.9	1.1
90°-100°	38.5	0.8
100°-110°	111.6	2.2
110°-120°	187.6	3.8
120°-130°	244.7	4.9
130°-140°	272.8	5.5
140°-150°	266.8	5.4
150°-160°	224.4	4.5
160°-170°	149.2	3.0
170°-180°	51.9	1.0
0°-30°	1007.5	20.2
0°-40°	1620.2	32.5
0°-60°	2771.4	55.6
0°-90°	3435.6	68.9
90°-120°	337.7	6.8
90°-150°	1122.0	22.5
90°-180°	1547.0	31.0
0°-180°	4983.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1335	1335	1335	1335	1335	
5°	1342	1326	1318	1325	1340	127
15°	1280	1270	1257	1268	1275	361
25°	1161	1150	1120	1147	1155	535
35°	1002	989	957	982	993	627
45°	821	806	767	798	806	632
55°	621	610	573	599	611	556
65°	421	405	376	392	407	417
75°	217	206	188	193	202	231
85°	52	48	41	42	43	58
90°	2	5	7	6	1	7
95°	32	36	36	34	30	33
105°	105	109	108	104	98	110
115°	190	193	190	187	183	187
125°	273	277	274	272	267	244
135°	352	359	353	355	345	272
145°	426	432	427	428	418	266
155°	487	493	488	487	481	225
165°	532	533	527	530	527	150
175°	553	548	538	547	552	53
180°	548	548	548	548	548	



TEST NUMBER: P199430

CATALOG NUMBER: S122-DIW-ULO-2-40-0048-1D-UDD-1-5-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7
2.5°	1348.2	1329.6	1332.7	1328.5	1318.2	1327.5	1331.6	1328.5	1346.1
5°	1342.0	1323.4	1326.5	1321.3	1318.2	1321.3	1325.4	1321.3	1339.9
7.5°	1333.7	1313.1	1319.3	1316.2	1313.1	1315.1	1318.2	1311.0	1330.6
10°	1319.3	1298.6	1307.9	1301.7	1298.6	1300.7	1305.8	1295.5	1316.2
12.5°	1302.7	1282.1	1291.4	1284.2	1281.1	1281.1	1290.3	1279.0	1297.6
15°	1280.0	1263.5	1269.7	1262.5	1257.3	1260.4	1267.6	1259.4	1274.9
17.5°	1254.2	1239.8	1247.0	1235.6	1226.3	1233.6	1243.9	1234.6	1250.1
20°	1227.4	1210.9	1218.1	1202.6	1194.3	1200.5	1214.0	1206.7	1221.2
22.5°	1197.4	1182.0	1188.2	1167.5	1159.2	1164.4	1184.0	1176.8	1190.2
25°	1161.3	1148.9	1150.0	1129.3	1120.0	1126.2	1146.9	1142.7	1155.1
27.5°	1126.2	1113.8	1114.9	1091.1	1080.8	1089.1	1109.7	1106.6	1118.0
30°	1088.0	1076.7	1075.6	1051.9	1043.6	1048.8	1069.4	1069.4	1078.7
32.5°	1045.7	1036.4	1031.2	1009.6	1001.3	1007.5	1025.1	1028.1	1035.4
35°	1002.3	996.1	988.9	968.3	956.9	965.2	981.7	985.8	993.1
37.5°	959.0	951.8	943.5	922.9	910.5	920.8	935.2	942.5	947.6
40°	913.6	908.4	899.1	878.5	863.0	873.3	889.8	898.1	905.3
42.5°	867.1	864.0	852.7	831.0	815.5	826.9	844.4	851.6	854.7
45°	820.7	816.5	806.2	783.5	767.0	779.4	798.0	805.2	806.2
47.5°	769.0	770.1	757.7	735.0	718.5	730.9	747.4	757.7	761.8
50°	722.6	723.6	709.2	686.5	669.9	679.2	698.9	709.2	707.1
52.5°	673.0	676.1	660.7	637.9	621.4	630.7	650.3	661.7	662.7
55°	621.4	626.6	610.1	587.4	572.9	582.2	598.7	612.1	611.1
57.5°	571.9	576.0	559.5	538.8	524.4	532.7	547.1	564.7	560.5
60°	522.3	526.5	508.9	488.3	475.9	480.0	496.5	511.0	508.9
62.5°	471.8	475.9	457.3	438.7	424.3	430.5	444.9	462.5	457.3
65°	421.2	424.3	404.7	388.1	375.7	381.9	392.3	410.8	406.7
67.5°	370.6	372.7	355.1	339.6	329.3	332.4	341.7	357.2	355.1
70°	320.0	322.1	305.6	291.1	281.8	284.9	292.1	306.6	304.5
72.5°	268.4	271.5	255.0	241.6	232.3	235.4	240.5	253.9	250.8
75°	216.8	218.8	206.5	196.1	187.9	188.9	193.0	203.4	202.3
77.5°	169.3	174.5	161.0	151.7	145.6	146.6	151.7	156.9	154.8
80°	122.8	129.0	119.7	112.5	107.4	106.3	110.5	114.6	111.5
82.5°	86.7	87.7	81.6	76.4	71.2	71.2	74.3	77.4	74.3
85°	51.6	53.7	48.5	44.4	41.3	40.3	42.3	45.4	43.4
87.5°	24.8	25.8	20.6	18.6	15.5	14.5	15.5	17.5	17.5
90°	2.1	5.2	5.2	6.2	7.2	7.2	6.2	6.2	1.0
92.5°	19.9	22.1	23.2	22.5	22.1	21.0	21.0	19.9	17.7
95°	31.7	35.0	36.5	36.1	36.1	34.6	34.3	33.2	29.8
97.5°	46.8	50.5	51.6	51.9	51.6	49.7	48.6	47.5	43.8
100°	64.1	67.8	68.9	68.9	68.5	66.7	65.2	63.7	59.7
102.5°	83.3	86.9	88.1	87.3	87.3	84.7	83.3	82.2	77.7
105°	104.6	108.3	109.1	107.9	107.6	105.0	103.9	102.4	98.4
107.5°	125.3	128.9	128.6	128.2	126.7	124.9	124.2	121.9	116.8
110°	146.6	151.4	149.6	148.8	147.4	145.5	144.8	144.1	140.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	168.0	173.2	170.9	170.2	168.4	166.2	166.2	165.8	161.7
115°	189.7	194.9	192.7	191.2	189.7	187.5	187.2	187.5	183.1
117.5°	210.7	216.6	214.1	212.2	210.7	208.2	208.5	209.3	204.5
120°	231.7	238.4	235.4	233.2	232.1	229.2	229.5	231.0	225.5
122.5°	252.4	259.0	256.4	254.2	253.1	249.8	250.5	251.3	246.1
125°	273.0	279.6	277.4	274.8	273.7	271.5	271.9	271.9	266.7
127.5°	293.3	299.9	298.4	295.5	294.0	291.1	292.5	291.4	287.0
130°	313.2	319.4	318.7	315.4	314.3	312.4	313.5	310.2	306.9
132.5°	332.7	338.9	339.3	335.6	334.2	332.3	334.5	330.8	326.4
135°	352.2	357.7	359.2	355.2	353.3	351.8	354.8	348.9	345.2
137.5°	371.0	375.4	378.7	373.9	372.5	369.9	373.6	367.7	364.4
140°	390.2	393.8	396.8	393.1	391.3	389.1	392.0	386.1	382.8
142.5°	407.8	411.9	414.8	411.2	408.9	407.1	410.1	403.8	400.8
145°	425.5	428.8	432.5	429.2	427.0	425.2	427.7	421.5	418.5
147.5°	442.1	445.1	449.5	445.8	443.6	442.1	443.9	437.7	435.1
150°	458.3	459.8	464.2	462.0	459.1	457.6	459.1	453.5	451.3
152.5°	473.4	474.5	478.6	476.0	474.5	471.9	473.8	468.3	466.8
155°	487.4	487.8	492.6	489.6	487.8	485.9	487.4	483.0	481.2
157.5°	500.7	500.7	504.0	502.5	499.6	498.8	499.9	495.2	494.8
160°	512.1	511.4	515.4	512.8	510.3	509.5	511.4	506.9	506.6
162.5°	522.8	521.3	525.0	521.7	519.5	518.7	521.3	517.3	517.6
165°	531.6	529.8	532.7	529.4	527.2	526.8	529.8	525.7	527.2
167.5°	539.4	536.4	539.0	535.7	533.8	533.5	536.8	533.1	535.3
170°	545.3	541.6	543.8	539.4	538.6	537.9	541.9	538.6	542.3
172.5°	550.1	546.0	546.7	541.9	539.4	540.8	545.3	543.4	547.5
175°	553.0	548.6	547.8	542.7	538.3	541.6	547.1	546.7	551.5
177.5°	554.1	550.1	548.9	543.1	541.6	542.3	548.6	548.9	553.4
180°	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2

(END OF REPORT)