

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: P199421

Luminaire Tested: **S122-DIW-ULO-1-30-0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199421  
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-ULO-1-30-0048-1D-UDD-1-NA-W  
Description: DEFINE 2-INCH DIRECT/INDIRECT WALL LED LUMINAIRE  
UPLIGHT LLO-3000K, NO LENS  
DOWNLIGHT LL1-3000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

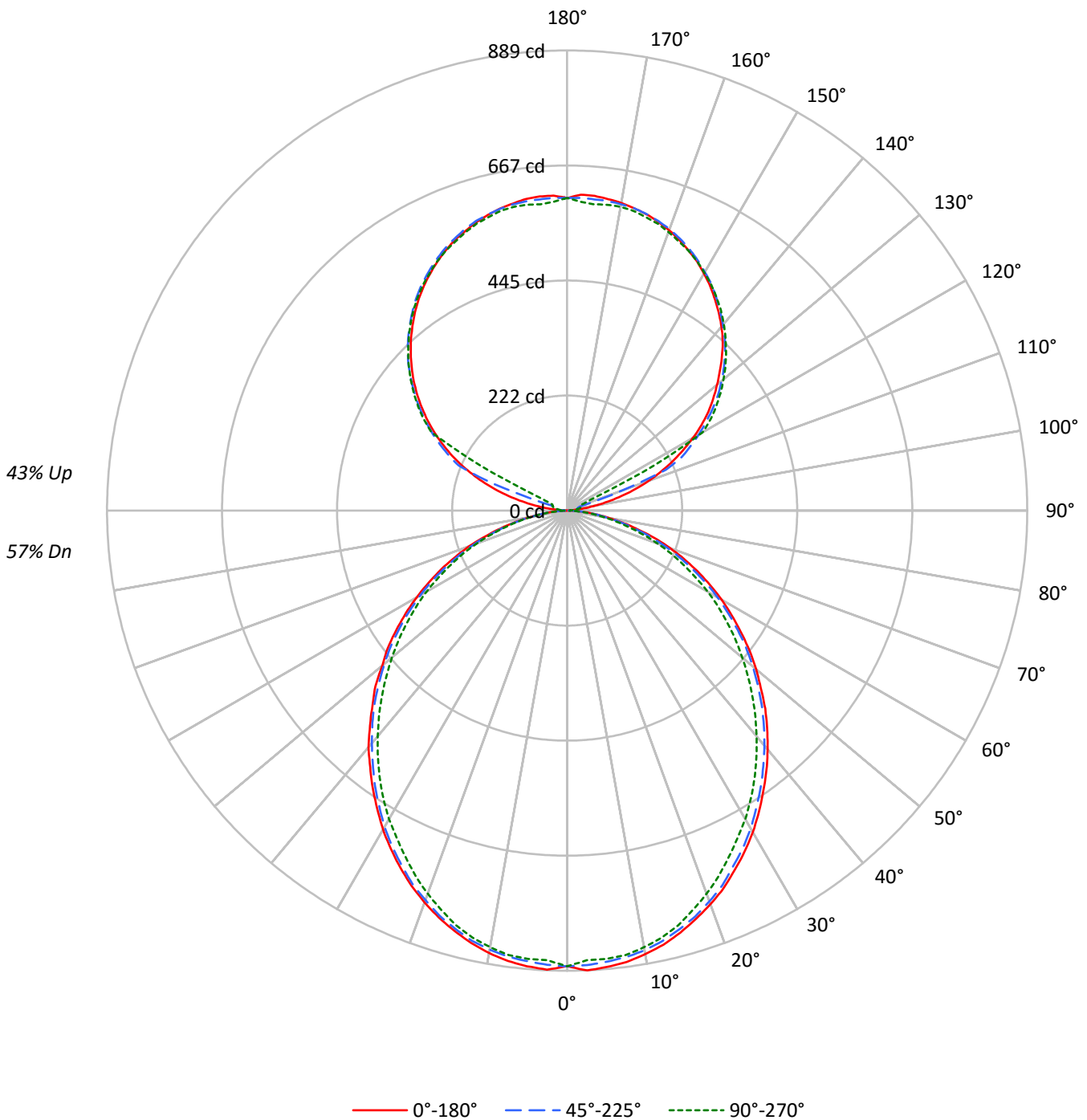
Lumens per Lamp: N/A  
Luminaire Lumens: 3979.7 lumens  
Efficiency: N/A  
Efficacy: 99.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.17 / 1.31  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4.08' x H: 0.38')  
CIE Type: General Diffuse

Input Watts (W): 40.1  
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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	57
1	99	95	91	88	92	89	85	82	77	74	72	66	64	62	55	54	53	48
2	91	83	77	72	84	78	72	67	67	63	59	58	55	52	49	47	45	40
3	83	73	66	60	77	68	62	56	59	54	50	51	47	44	43	40	38	34
4	76	65	57	51	70	61	53	48	53	47	43	45	41	38	39	35	33	29
5	69	58	49	43	64	54	47	41	47	41	37	41	36	33	35	31	29	25
6	64	52	44	38	59	49	41	36	43	37	32	37	32	29	32	28	25	22
7	59	47	39	33	55	44	37	31	39	33	28	34	29	25	29	25	22	20
8	55	42	35	29	51	40	33	28	35	29	25	31	26	23	26	23	20	18
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	24	21	18	16
10	48	36	28	23	45	34	27	22	30	24	20	26	22	18	23	19	16	15

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

	0°	90°	180°
0°	13923	13923	13923
5°	13940	11533	13918
10°	13751	9848	13720
15°	13491	8472	13437
20°	13184	7289	13117
25°	12817	6291	12750
30°	12446	5468	12340
35°	11993	4731	11883
40°	11549	4069	11446
45°	11089	3482	10892
50°	10570	2954	10344
55°	9992	2473	9826
60°	9402	2028	9159
65°	8686	1592	8386
70°	7795	1197	7415
75°	6508	806	6071
80°	4851	469	4402
85°	3010	185	2532



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.0	2.1
10°-20°	235.0	5.9
20°-30°	346.5	8.7
30°-40°	404.1	10.2
40°-50°	405.0	10.2
50°-60°	354.3	8.9
60°-70°	260.6	6.5
70°-80°	141.3	3.5
80°-90°	36.2	0.9
90°-100°	15.2	0.4
100°-110°	67.8	1.7
110°-120°	197.1	5.0
120°-130°	308.0	7.7
130°-140°	332.0	8.3
140°-150°	313.8	7.9
150°-160°	255.9	6.4
160°-170°	166.5	4.2
170°-180°	57.4	1.4
0°-30°	664.5	16.7
0°-40°	1068.6	26.9
0°-60°	1827.8	45.9
0°-90°	2266.0	56.9
90°-120°	280.1	7.0
90°-150°	1233.9	31.0
90°-180°	1714.0	43.1
0°-180°	3979.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	880	880	880	880	880	
5°	885	875	869	874	884	84
15°	844	837	829	836	841	238
25°	766	758	739	756	762	353
35°	661	652	631	648	655	414
45°	541	532	506	526	532	417
55°	410	402	378	395	403	367
65°	278	267	248	259	268	275
75°	143	136	124	127	133	152
85°	34	32	27	28	29	38
90°	1	3	5	4	1	3
95°	15	12	14	14	26	21
105°	109	23	28	24	128	116
115°	225	244	50	252	241	222
125°	333	343	352	349	341	297
135°	423	432	434	436	427	326
145°	498	502	503	506	500	312
155°	554	558	554	559	555	256
165°	593	593	587	592	591	167
175°	610	604	594	604	609	58
180°	604	604	604	604	604	



TEST NUMBER: P199421

CATALOG NUMBER: S122-DIW-ULO-1-30-0048-1D-UDD-1-NA-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	880.3	880.3	880.3	880.3	880.3	880.3	880.3	880.3	880.3
2.5°	889.2	876.9	879.0	876.2	869.4	875.5	878.3	876.2	887.8
5°	885.1	872.8	874.9	871.5	869.4	871.5	874.2	871.5	883.7
7.5°	879.6	866.0	870.1	868.1	866.0	867.4	869.4	864.7	877.6
10°	870.1	856.5	862.6	858.5	856.5	857.8	861.3	854.4	868.1
12.5°	859.2	845.6	851.7	847.0	844.9	844.9	851.0	843.6	855.8
15°	844.2	833.3	837.4	832.7	829.3	831.3	836.1	830.6	840.8
17.5°	827.2	817.7	822.4	815.0	808.8	813.6	820.4	814.3	824.5
20°	809.5	798.6	803.4	793.2	787.7	791.8	800.7	795.9	805.4
22.5°	789.8	779.6	783.6	770.0	764.6	768.0	780.9	776.1	785.0
25°	765.9	757.8	758.4	744.8	738.7	742.8	756.4	753.7	761.9
27.5°	742.8	734.6	735.3	719.6	712.8	718.3	731.9	729.9	737.3
30°	717.6	710.1	709.4	693.8	688.3	691.7	705.3	705.3	711.5
32.5°	689.7	683.6	680.2	665.9	660.4	664.5	676.1	678.1	682.9
35°	661.1	657.0	652.2	638.6	631.1	636.6	647.5	650.2	655.0
37.5°	632.5	627.7	622.3	608.7	600.5	607.3	616.8	621.6	625.0
40°	602.5	599.1	593.0	579.4	569.2	576.0	586.9	592.3	597.1
42.5°	571.9	569.9	562.4	548.1	537.9	545.3	556.9	561.7	563.7
45°	541.3	538.5	531.7	516.8	505.9	514.0	526.3	531.0	531.7
47.5°	507.2	507.9	499.7	484.8	473.9	482.0	492.9	499.7	502.5
50°	476.6	477.3	467.7	452.8	441.9	448.0	460.9	467.7	466.4
52.5°	443.9	445.9	435.7	420.8	409.9	416.0	428.9	436.4	437.1
55°	409.9	413.3	402.4	387.4	377.9	384.0	394.9	403.7	403.1
57.5°	377.2	379.9	369.0	355.4	345.9	351.3	360.8	372.4	369.7
60°	344.5	347.2	335.6	322.0	313.9	316.6	327.5	337.0	335.6
62.5°	311.1	313.9	301.6	289.4	279.8	283.9	293.4	305.0	301.6
65°	277.8	279.8	266.9	256.0	247.8	251.9	258.7	271.0	268.2
67.5°	244.4	245.8	234.2	224.0	217.2	219.2	225.4	235.6	234.2
70°	211.1	212.4	201.5	192.0	185.9	187.9	192.7	202.2	200.8
72.5°	177.0	179.1	168.2	159.3	153.2	155.2	158.6	167.5	165.4
75°	143.0	144.3	136.2	129.4	123.9	124.6	127.3	134.1	133.4
77.5°	111.7	115.1	106.2	100.1	96.0	96.7	100.1	103.5	102.1
80°	81.0	85.1	79.0	74.2	70.8	70.1	72.8	75.6	73.5
82.5°	57.2	57.9	53.8	50.4	47.0	47.0	49.0	51.1	49.0
85°	34.0	35.4	32.0	29.3	27.2	26.6	27.9	30.0	28.6
87.5°	16.3	17.0	13.6	12.3	10.2	9.5	10.2	11.6	11.6
90°	1.4	3.4	3.4	4.1	4.8	4.8	4.1	4.1	0.7
92.5°	2.1	4.9	4.9	5.9	6.3	7.3	8.4	8.7	9.4
95°	14.7	10.5	11.9	12.9	13.6	14.7	14.0	12.9	25.5
97.5°	32.9	13.3	16.8	17.5	18.5	18.9	18.9	14.7	46.5
100°	54.9	15.4	19.9	22.7	23.4	23.4	21.3	32.9	71.7
102.5°	80.8	68.6	21.7	25.2	26.6	25.5	22.7	111.6	99.7
105°	108.8	123.5	23.1	26.6	28.0	27.3	23.8	137.5	128.0
107.5°	138.2	149.7	24.5	28.0	29.4	28.3	29.0	164.1	156.4
110°	167.6	177.4	109.9	29.0	30.4	29.0	152.2	191.0	184.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	195.6	205.7	206.4	30.8	31.1	33.2	226.3	218.3	213.1
115°	224.9	233.3	244.2	142.0	49.7	156.4	252.2	245.2	240.7
117.5°	251.9	259.9	268.3	249.8	190.3	271.8	277.1	271.8	267.3
120°	280.2	288.3	293.5	301.9	302.6	302.6	301.6	297.4	292.5
122.5°	308.2	313.5	317.7	326.1	328.9	325.7	325.0	321.2	317.3
125°	332.7	337.6	343.2	348.8	351.6	348.4	348.8	343.9	341.1
127.5°	355.8	360.0	367.3	370.8	373.6	370.1	371.5	366.3	364.2
130°	378.2	381.0	389.4	392.2	394.6	392.5	393.6	388.0	386.2
132.5°	400.2	404.1	411.1	412.1	414.9	411.8	415.6	407.9	407.2
135°	423.3	426.5	431.7	432.1	434.2	432.4	435.6	429.3	427.2
137.5°	445.0	446.4	450.9	449.5	452.7	449.9	454.4	448.1	446.7
140°	463.9	464.9	468.1	468.8	470.9	468.4	471.9	465.6	464.9
142.5°	481.4	482.8	485.6	485.2	487.7	485.2	489.4	483.8	483.1
145°	497.8	499.9	502.4	501.3	503.1	501.7	505.9	499.9	499.6
147.5°	514.3	515.0	518.5	516.7	517.8	516.0	520.6	515.7	515.0
150°	528.6	530.0	532.1	530.0	530.4	529.3	533.9	529.7	529.0
152.5°	543.0	542.6	545.8	541.6	543.3	541.6	546.8	542.6	542.6
155°	554.5	554.2	558.0	553.5	554.2	552.8	558.7	553.8	554.9
157.5°	566.0	564.3	568.8	564.3	562.9	563.9	568.5	563.9	566.0
160°	576.2	574.4	578.6	573.7	572.7	573.4	578.3	574.1	574.8
162.5°	584.9	582.5	586.3	581.1	581.1	580.0	586.3	582.1	584.2
165°	592.6	589.8	593.0	587.7	587.0	586.3	591.9	589.1	591.2
167.5°	598.2	595.4	598.2	592.3	593.0	591.6	597.2	595.4	597.9
170°	603.5	600.0	601.0	595.8	595.8	594.7	600.7	598.9	602.4
172.5°	607.0	603.1	603.1	597.2	595.8	596.5	602.8	602.4	607.3
175°	610.1	604.9	603.5	597.9	594.0	597.5	603.5	604.5	609.1
177.5°	610.8	605.9	604.5	598.2	597.2	597.5	604.9	605.2	609.1
180°	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8

(END OF REPORT)