

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: P199437

Luminaire Tested: **S122-DIP-ULO-LO-40-X-X0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199437  
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-DIP-ULO-LO-40-X-X0048-1D-UDD-1-NA-W  
Description: DEFINE 2-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE  
UPLIGHT LLO-4000K, NO LENS  
DOWNLIGHT LLO-4000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3030.7 lumens  
Efficiency: N/A  
Efficacy: 112.7 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

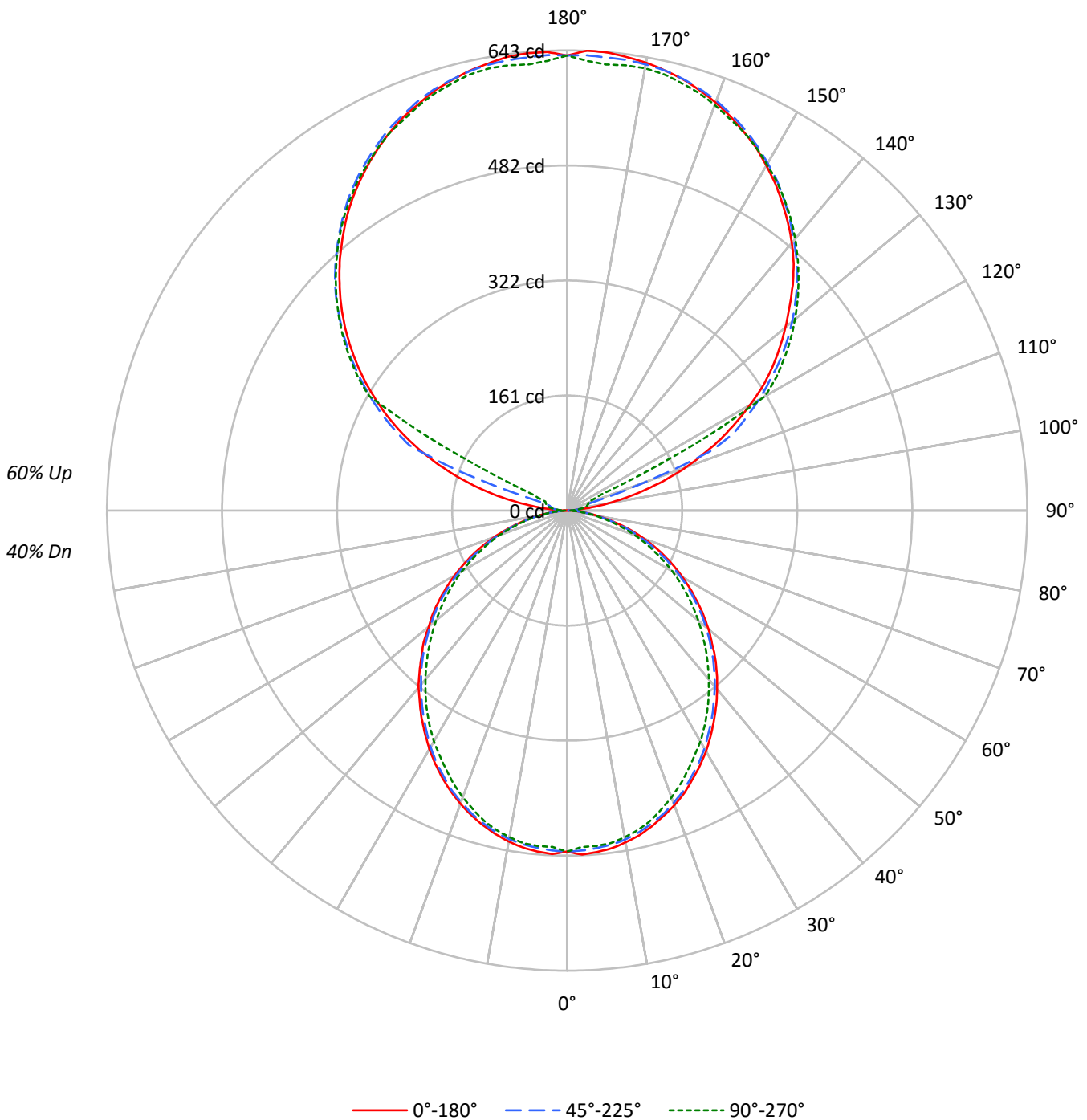
Input Watts (W): 26.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	105	105	105	105	96	96	96	96	78	78	78	62	62	62	47	47	47	40					40			
1	96	91	88	84	87	83	80	77	68	66	64	55	53	52	42	41	40	34					34			
2	87	80	74	69	79	73	68	63	60	56	53	48	45	43	37	35	34	29					29			
3	79	70	63	57	72	64	58	53	53	48	45	42	39	37	33	31	29	24					24			
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	29	27	25	21					21			
5	67	55	47	41	60	51	44	38	42	37	33	34	30	27	26	24	22	18					18			
6	61	49	41	36	56	45	38	33	38	32	28	31	27	24	24	21	19	16					16			
7	57	45	37	31	51	41	34	29	34	29	25	28	24	21	22	19	17	14					14			
8	53	40	33	28	48	37	30	26	31	26	22	25	21	19	20	17	15	13					13			
9	49	37	29	24	44	34	27	23	28	23	20	23	19	17	18	16	14	11					11			
10	46	34	27	22	42	31	25	20	26	21	18	21	18	15	17	14	12	10					10			

**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	1.5
10°-20°	127.1	4.2
20°-30°	187.5	6.2
30°-40°	218.7	7.2
40°-50°	219.1	7.2
50°-60°	191.7	6.3
60°-70°	141.0	4.7
70°-80°	76.5	2.5
80°-90°	19.6	0.6
90°-100°	15.8	0.5
100°-110°	71.4	2.4
110°-120°	207.6	6.8
120°-130°	324.3	10.7
130°-140°	349.7	11.5
140°-150°	330.5	10.9
150°-160°	269.5	8.9
160°-170°	175.4	5.8
170°-180°	60.4	2.0
0°-30°	359.6	11.9
0°-40°	578.3	19.1
0°-60°	989.1	32.6
0°-90°	1226.2	40.5
90°-120°	294.8	9.7
90°-150°	1299.2	42.9
90°-180°	1804.0	59.5
0°-180°	3030.7	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°	16	12	14	15	27	22
105°	115	24	30	25	135	122
115°	237	257	52	266	254	233
125°	350	361	370	367	359	312
135°	446	455	457	459	450	344
145°	524	529	530	533	526	328
155°	584	588	584	588	584	269
165°	624	624	618	623	623	176
175°	642	636	626	636	641	61
180°	636	636	636	636	636	



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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°	2.2	5.2	5.2	6.3	6.6	7.7	8.8	9.2	9.9
95°	15.5	11.1	12.5	13.6	14.4	15.5	14.7	13.6	26.9
97.5°	34.6	14.0	17.7	18.4	19.5	19.9	19.9	15.5	49.0
100°	57.8	16.2	21.0	23.9	24.7	24.7	22.5	34.6	75.5
102.5°	85.1	72.2	22.8	26.5	28.0	26.9	23.9	117.5	105.0
105°	114.6	130.1	24.3	28.0	29.5	28.7	25.1	144.8	134.8
107.5°	145.5	157.7	25.8	29.5	30.9	29.8	30.6	172.8	164.7
110°	176.5	186.8	115.7	30.6	32.1	30.6	160.3	201.2	194.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	205.9	216.6	217.4	32.4	32.8	35.0	238.4	229.9	224.4
115°	236.9	245.7	257.2	149.6	52.3	164.7	265.6	258.3	253.5
117.5°	265.3	273.7	282.6	263.1	200.4	286.3	291.8	286.3	281.5
120°	295.1	303.6	309.1	317.9	318.7	318.7	317.6	313.2	308.0
122.5°	324.6	330.1	334.5	343.4	346.3	343.0	342.3	338.2	334.2
125°	350.4	355.5	361.4	367.3	370.3	366.9	367.3	362.2	359.2
127.5°	374.7	379.1	386.8	390.5	393.5	389.8	391.3	385.7	383.5
130°	398.3	401.2	410.1	413.0	415.6	413.4	414.5	408.6	406.7
132.5°	421.5	425.5	432.9	434.0	436.9	433.6	437.7	429.6	428.8
135°	445.8	449.1	454.6	455.0	457.2	455.4	458.7	452.1	449.8
137.5°	468.6	470.1	474.9	473.4	476.7	473.8	478.6	471.9	470.5
140°	488.5	489.6	492.9	493.7	495.9	493.3	497.0	490.4	489.6
142.5°	506.9	508.4	511.4	511.0	513.6	511.0	515.4	509.5	508.8
145°	524.3	526.5	529.1	527.9	529.8	528.3	532.7	526.5	526.1
147.5°	541.6	542.3	546.0	544.2	545.3	543.4	548.2	543.1	542.3
150°	556.7	558.2	560.4	558.2	558.5	557.4	562.2	557.8	557.1
152.5°	571.8	571.4	574.7	570.3	572.2	570.3	575.8	571.4	571.4
155°	583.9	583.6	587.6	582.8	583.6	582.1	588.4	583.2	584.3
157.5°	596.1	594.3	599.1	594.3	592.8	593.9	598.7	593.9	596.1
160°	606.8	604.9	609.4	604.2	603.1	603.8	609.0	604.6	605.3
162.5°	616.0	613.4	617.5	611.9	611.9	610.8	617.5	613.1	615.3
165°	624.1	621.2	624.5	618.9	618.2	617.5	623.4	620.4	622.6
167.5°	630.0	627.1	630.0	623.7	624.5	623.0	628.9	627.1	629.6
170°	635.5	631.8	632.9	627.4	627.4	626.3	632.6	630.7	634.4
172.5°	639.2	635.2	635.2	628.9	627.4	628.2	634.8	634.4	639.6
175°	642.5	637.0	635.5	629.6	625.6	629.3	635.5	636.6	641.4
177.5°	643.3	638.1	636.6	630.0	628.9	629.3	637.0	637.4	641.4
180°	635.9	635.9	635.9	635.9	635.9	635.9	635.9	635.9	635.9

(END OF REPORT)