

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: P199432

Luminaire Tested: **S122-DIP-ULO-LO-30-X-X0048-1D-UDD-1-5-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199432  
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-DIP-ULO-LO-30-X-X0048-1D-UDD-1-5-W  
Description: DEFINE 2-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE  
UPLIGHT LLO-3000K, SATIN WHITE DIFFUSER  
DOWNLIGHT LLO-3000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2633.3 lumens  
Efficiency: N/A  
Efficacy: 97.9 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

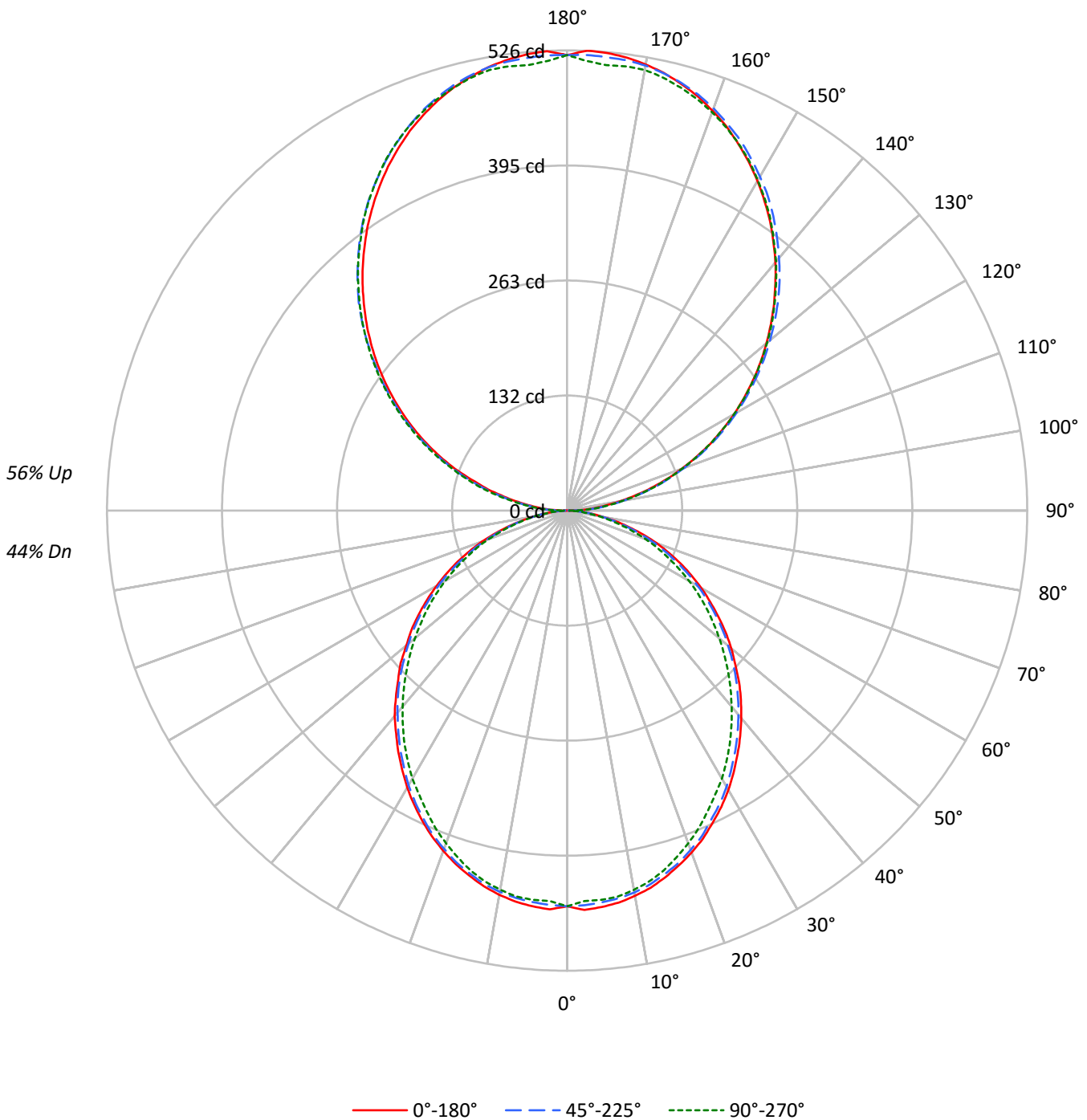
Input Watts (W): 26.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P199432

CATALOG NUMBER: S122-DIP-ULO-LO-30-X-X0048-1D-UDD-1-5-W

### Luminous Intensity Polar Plot





TEST NUMBER: P199432

CATALOG NUMBER: S122-DIP-ULO-LO-30-X-X0048-1D-UDD-1-5-W

**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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44
1	97	92	88	85	88	85	81	78	70	68	66	57	56	54	45	44	43	37
2	88	81	75	69	80	74	69	64	62	58	55	50	47	45	40	38	36	31
3	80	71	64	58	73	65	59	54	54	50	46	44	41	38	35	33	31	27
4	73	63	55	49	67	58	51	46	48	43	39	39	36	33	31	29	27	23
5	67	56	48	42	61	51	44	39	43	38	34	35	31	28	28	25	23	20
6	62	50	42	36	57	46	39	34	39	33	29	32	28	25	26	23	20	17
7	57	45	37	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15
8	53	41	33	28	49	38	31	26	32	27	23	27	22	19	21	18	16	14
9	49	37	30	25	45	35	28	23	29	24	20	24	20	17	20	17	15	12
10	46	34	27	22	42	32	25	21	27	22	18	23	19	16	18	15	13	11

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

	0°	90°	180°
0°	7154	7154	7154
5°	7163	5926	7152
10°	7066	5060	7049
15°	6932	4353	6905
20°	6775	3746	6741
25°	6587	3233	6552
30°	6394	2810	6341
35°	6163	2431	6105
40°	5935	2091	5881
45°	5697	1789	5597
50°	5431	1517	5314
55°	5134	1271	5049
60°	4831	1042	4708
65°	4462	818	4308
70°	4006	615	3811
75°	3345	414	3122
80°	2491	241	2264
85°	1549	95	1301



TEST NUMBER: P199432

CATALOG NUMBER: S122-DIP-ULO-LO-30-X-X0048-1D-UDD-1-5-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.6	1.6
10°-20°	120.7	4.6
20°-30°	178.1	6.8
30°-40°	207.7	7.9
40°-50°	208.1	7.9
50°-60°	182.0	6.9
60°-70°	133.9	5.1
70°-80°	72.6	2.8
80°-90°	18.6	0.7
90°-100°	36.1	1.4
100°-110°	105.9	4.0
110°-120°	178.2	6.8
120°-130°	232.4	8.8
130°-140°	259.0	9.8
140°-150°	253.3	9.6
150°-160°	213.1	8.1
160°-170°	141.6	5.4
170°-180°	49.3	1.9
0°-30°	341.5	13.0
0°-40°	549.1	20.9
0°-60°	939.2	35.7
0°-90°	1164.3	44.2
90°-120°	320.2	12.2
90°-150°	1064.9	40.4
90°-180°	1469.0	55.8
0°-180°	2633.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	452	452	452	452	452	
5°	455	450	447	449	454	43
15°	434	430	426	430	432	122
25°	394	390	380	389	392	181
35°	340	335	324	333	336	213
45°	278	273	260	270	273	214
55°	211	207	194	203	207	189
65°	143	137	127	133	138	141
75°	74	70	64	65	69	78
85°	18	16	14	14	15	20
90°	1	2	2	2	0	4
95°	30	35	34	32	28	31
105°	99	104	102	99	93	105
115°	180	183	180	178	174	178
125°	259	263	260	258	253	232
135°	334	341	336	337	328	258
145°	404	411	406	406	397	253
155°	463	468	463	463	457	213
165°	505	506	501	503	501	142
175°	525	520	511	520	524	50
180°	521	521	521	521	521	



TEST NUMBER: P199432

CATALOG NUMBER: S122-DIP-ULO-LO-30-X-X0048-1D-UDD-1-5-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	452.3	452.3	452.3	452.3	452.3	452.3	452.3	452.3	452.3
2.5°	456.9	450.6	451.6	450.2	446.7	449.9	451.3	450.2	456.2
5°	454.8	448.5	449.5	447.8	446.7	447.8	449.2	447.8	454.1
7.5°	452.0	445.0	447.1	446.0	445.0	445.7	446.7	444.3	450.9
10°	447.1	440.1	443.3	441.2	440.1	440.8	442.6	439.1	446.0
12.5°	441.5	434.5	437.7	435.2	434.2	434.2	437.3	433.5	439.8
15°	433.8	428.2	430.3	427.9	426.1	427.2	429.6	426.8	432.1
17.5°	425.1	420.2	422.6	418.8	415.6	418.1	421.6	418.4	423.7
20°	416.0	410.4	412.8	407.6	404.8	406.9	411.4	409.0	413.9
22.5°	405.8	400.6	402.7	395.7	392.9	394.6	401.3	398.8	403.4
25°	393.6	389.4	389.7	382.7	379.6	381.7	388.7	387.3	391.5
27.5°	381.7	377.5	377.8	369.8	366.3	369.1	376.1	375.0	378.9
30°	368.7	364.9	364.5	356.5	353.7	355.4	362.4	362.4	365.6
32.5°	354.4	351.2	349.5	342.1	339.3	341.4	347.4	348.4	350.9
35°	339.7	337.6	335.1	328.2	324.3	327.1	332.7	334.1	336.5
37.5°	325.0	322.6	319.8	312.8	308.6	312.1	317.0	319.4	321.2
40°	309.6	307.9	304.7	297.7	292.5	296.0	301.6	304.4	306.8
42.5°	293.9	292.8	289.0	281.6	276.4	280.2	286.2	288.6	289.7
45°	278.1	276.7	273.2	265.5	259.9	264.1	270.4	272.9	273.2
47.5°	260.6	261.0	256.8	249.1	243.5	247.7	253.3	256.8	258.2
50°	244.9	245.2	240.3	232.6	227.0	230.2	236.8	240.3	239.6
52.5°	228.1	229.1	223.9	216.2	210.6	213.8	220.4	224.2	224.6
55°	210.6	212.4	206.8	199.1	194.2	197.3	202.9	207.5	207.1
57.5°	193.8	195.2	189.6	182.6	177.7	180.5	185.4	191.4	190.0
60°	177.0	178.4	172.5	165.5	161.3	162.7	168.3	173.2	172.5
62.5°	159.9	161.3	155.0	148.7	143.8	145.9	150.8	156.7	155.0
65°	142.7	143.8	137.1	131.5	127.3	129.4	132.9	139.2	137.8
67.5°	125.6	126.3	120.3	115.1	111.6	112.6	115.8	121.0	120.3
70°	108.5	109.2	103.6	98.7	95.5	96.6	99.0	103.9	103.2
72.5°	91.0	92.0	86.4	81.9	78.7	79.8	81.5	86.1	85.0
75°	73.5	74.2	70.0	66.5	63.7	64.0	65.4	68.9	68.6
77.5°	57.4	59.1	54.6	51.4	49.3	49.7	51.4	53.2	52.5
80°	41.6	43.7	40.6	38.1	36.4	36.0	37.4	38.8	37.8
82.5°	29.4	29.7	27.6	25.9	24.1	24.1	25.2	26.2	25.2
85°	17.5	18.2	16.4	15.0	14.0	13.6	14.3	15.4	14.7
87.5°	8.4	8.7	7.0	6.3	5.2	4.9	5.2	5.9	5.9
90°	0.7	1.7	1.7	2.1	2.4	2.4	2.1	2.1	0.3
92.5°	18.9	21.0	22.0	21.3	21.0	19.9	19.9	18.9	16.8
95°	30.1	33.2	34.6	34.3	34.3	32.9	32.5	31.5	28.3
97.5°	44.4	47.9	49.0	49.3	49.0	47.2	46.2	45.1	41.6
100°	60.9	64.4	65.4	65.4	65.1	63.3	61.9	60.5	56.7
102.5°	79.1	82.6	83.6	82.9	82.9	80.5	79.1	78.0	73.8
105°	99.4	102.9	103.6	102.5	102.2	99.7	98.7	97.3	93.4
107.5°	118.9	122.4	122.1	121.7	120.3	118.6	117.9	115.8	110.9
110°	139.2	143.8	142.0	141.3	139.9	138.2	137.5	136.8	132.9



TEST NUMBER: P199432

CATALOG NUMBER: S122-DIP-ULO-LO-30-X-X0048-1D-UDD-1-5-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	159.5	164.4	162.3	161.6	159.9	157.8	157.8	157.4	153.6
115°	180.2	185.1	183.0	181.6	180.2	178.1	177.7	178.1	173.9
117.5°	200.1	205.7	203.3	201.5	200.1	197.7	198.0	198.7	194.2
120°	220.1	226.3	223.5	221.5	220.4	217.6	218.0	219.4	214.1
122.5°	239.6	245.9	243.5	241.4	240.3	237.2	237.9	238.6	233.7
125°	259.2	265.5	263.4	261.0	259.9	257.8	258.2	258.2	253.3
127.5°	278.5	284.8	283.4	280.6	279.2	276.4	277.8	276.7	272.5
130°	297.4	303.3	302.6	299.5	298.4	296.7	297.7	294.6	291.4
132.5°	315.9	321.9	322.2	318.7	317.3	315.6	317.7	314.2	310.0
135°	334.4	339.7	341.1	337.2	335.5	334.1	336.9	331.3	327.8
137.5°	352.3	356.5	359.6	355.1	353.7	351.2	354.7	349.1	346.0
140°	370.5	374.0	376.8	373.3	371.5	369.4	372.2	366.6	363.5
142.5°	387.3	391.1	393.9	390.4	388.3	386.6	389.4	383.4	380.6
145°	404.1	407.2	410.7	407.6	405.5	403.7	406.2	400.2	397.4
147.5°	419.8	422.6	426.8	423.3	421.2	419.8	421.6	415.6	413.2
150°	435.2	436.6	440.8	438.7	435.9	434.5	435.9	430.7	428.6
152.5°	449.5	450.6	454.4	452.0	450.6	448.1	449.9	444.6	443.3
155°	462.8	463.2	467.7	464.9	463.2	461.4	462.8	458.6	456.9
157.5°	475.4	475.4	478.6	477.2	474.4	473.7	474.7	470.2	469.8
160°	486.3	485.6	489.4	487.0	484.5	483.8	485.6	481.4	481.0
162.5°	496.4	495.0	498.5	495.4	493.3	492.6	495.0	491.2	491.5
165°	504.8	503.1	505.9	502.7	500.6	500.3	503.1	499.2	500.6
167.5°	512.2	509.4	511.8	508.7	506.9	506.6	509.7	506.2	508.3
170°	517.8	514.3	516.4	512.2	511.5	510.8	514.6	511.5	515.0
172.5°	522.3	518.5	519.2	514.6	512.2	513.6	517.8	516.0	519.9
175°	525.1	520.9	520.2	515.3	511.1	514.3	519.5	519.2	523.7
177.5°	526.2	522.3	521.3	515.7	514.3	515.0	520.9	521.3	525.5
180°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6

(END OF REPORT)