

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: P199463

Luminaire Tested: **S123-DIW-ULO-LO-35-0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199463  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P27889 P27889)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123-DIW-ULO-LO-35-0048-1D-UDD-1-NA-W  
Description: DEFINE 3-INCH DIRECT/INDIRECT WALL LED LUMINAIRE  
UPLIGHT LLO-3500K, NO LENS  
DOWNLIGHT LLO-3500K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

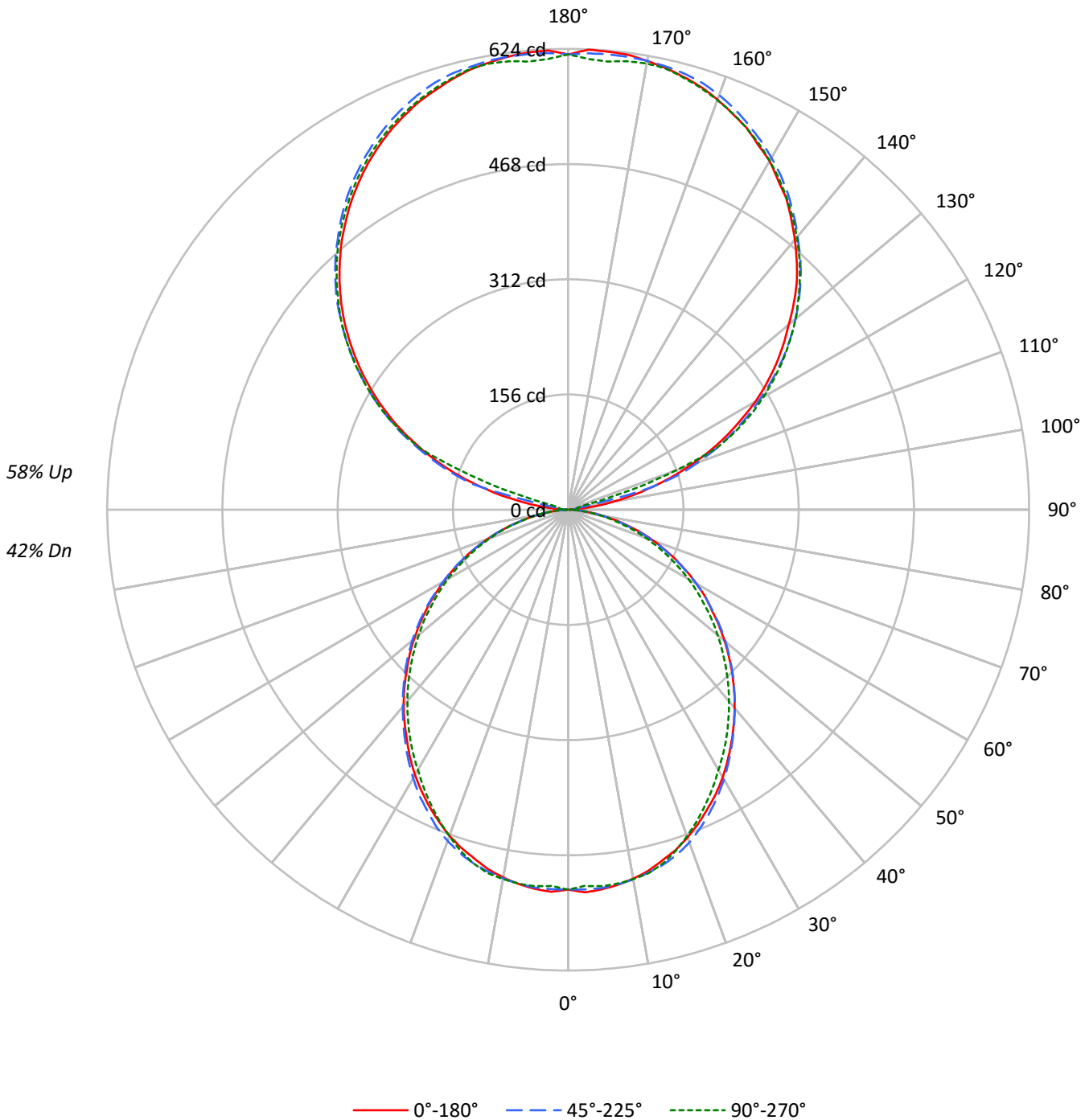
Lumens per Lamp: N/A  
Luminaire Lumens: 3177.1 lumens  
Efficiency: N/A  
Efficacy: 118.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.32  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4.08' x H: 0.38')  
CIE Type: General Diffuse

Input Watts (W): 26.9  
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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	42	36
2	87	80	74	69	80	73	68	64	61	57	54	49	46	44	38	36	35	30
3	80	70	63	57	73	65	58	53	54	49	45	43	40	37	34	32	30	25
4	73	62	55	49	66	57	50	45	48	42	38	39	35	32	30	28	26	22
5	67	55	47	42	61	51	44	39	42	37	33	35	31	28	27	24	22	19
6	62	50	42	36	56	46	39	34	38	33	29	31	27	24	25	22	20	17
7	57	45	37	31	52	41	34	29	35	29	25	28	24	21	23	20	17	15
8	53	41	33	28	48	37	31	26	32	26	22	26	22	19	21	18	16	13
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	31	25	21	27	22	18	22	18	15	18	15	13	11

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

	0°	90°	180°
0°	5423	5423	5423
5°	5419	4789	5412
10°	5347	4301	5328
15°	5240	3860	5213
20°	5127	3414	5100
25°	4985	3013	4953
30°	4837	2655	4795
35°	4658	2348	4602
40°	4479	2064	4428
45°	4290	1801	4226
50°	4084	1554	4026
55°	3857	1320	3793
60°	3650	1102	3539
65°	3371	885	3237
70°	3023	675	2863
75°	2533	465	2348
80°	1897	278	1697
85°	1074	119	950



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.8	1.5
10°-20°	139.2	4.4
20°-30°	205.7	6.5
30°-40°	239.4	7.5
40°-50°	240.3	7.6
50°-60°	210.3	6.6
60°-70°	155.3	4.9
70°-80°	84.8	2.7
80°-90°	21.9	0.7
90°-100°	14.4	0.5
100°-110°	101.5	3.2
110°-120°	242.9	7.6
120°-130°	314.4	9.9
130°-140°	341.2	10.7
140°-150°	323.0	10.2
150°-160°	263.8	8.3
160°-170°	171.4	5.4
170°-180°	58.8	1.9
0°-30°	393.7	12.4
0°-40°	633.1	19.9
0°-60°	1083.7	34.1
0°-90°	1345.8	42.4
90°-120°	358.7	11.3
90°-150°	1337.3	42.1
90°-180°	1831.0	57.6
0°-180°	3177.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	514	514	514	514	514	
5°	516	514	512	514	515	49
15°	492	498	496	496	489	139
25°	447	453	440	450	444	206
35°	385	386	374	384	380	241
45°	314	315	302	313	309	242
55°	237	238	226	236	233	213
65°	162	160	150	156	155	160
75°	84	82	75	77	77	89
85°	18	20	18	18	16	21
90°	1	2	1	2	1	2
95°	18	8	9	9	22	24
105°	117	115	18	134	126	124
115°	236	246	248	252	244	233
125°	343	354	356	355	348	306
135°	438	445	443	446	438	337
145°	515	520	516	520	511	321
155°	571	576	571	577	568	263
165°	606	611	605	611	604	171
175°	622	619	609	619	621	59
180°	616	616	616	616	616	



TEST NUMBER: P199463

CATALOG NUMBER: S123-DIW-ULO-LO-35-0048-1D-UDD-1-NA-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	514.3	514.3	514.3	514.3	514.3	514.3	514.3	514.3	514.3
2.5°	518.6	513.2	514.6	513.9	510.0	513.9	514.3	512.9	517.9
5°	516.1	511.4	514.3	513.2	511.8	513.2	513.6	510.7	515.4
7.5°	512.5	508.6	511.8	511.4	510.7	511.4	511.1	507.2	511.4
10°	507.5	503.9	508.2	508.9	507.9	508.6	506.8	502.9	505.7
12.5°	500.7	497.9	503.2	504.7	503.9	504.3	501.8	496.1	498.9
15°	491.8	490.4	497.5	498.6	495.7	497.5	495.7	488.6	489.3
17.5°	483.2	481.8	489.7	488.2	484.3	487.2	487.5	479.7	480.4
20°	472.2	471.5	479.7	475.4	470.4	474.0	477.2	469.3	469.7
22.5°	460.0	460.8	466.8	460.8	455.8	459.3	465.4	457.9	457.2
25°	446.8	449.0	452.9	445.8	440.1	444.0	450.4	446.1	444.0
27.5°	433.3	436.5	437.9	429.7	424.0	427.9	436.1	433.3	429.7
30°	418.3	422.2	421.9	413.3	406.9	411.1	419.7	419.4	414.7
32.5°	401.9	407.2	404.4	396.2	390.8	394.0	402.6	403.7	398.3
35°	385.1	390.8	386.5	378.7	374.0	377.2	384.4	387.6	380.5
37.5°	368.0	373.7	368.7	361.2	356.5	359.8	366.5	370.5	363.7
40°	350.5	355.8	350.8	344.4	338.7	342.3	348.3	352.6	346.5
42.5°	332.6	338.3	333.0	326.6	320.5	325.1	330.5	334.8	328.3
45°	314.1	320.1	315.1	307.6	301.9	306.6	312.6	316.2	309.4
47.5°	295.2	302.3	296.6	288.7	283.0	287.7	294.1	297.7	291.2
50°	276.2	282.3	278.0	269.8	264.1	268.4	275.5	278.4	272.3
52.5°	257.0	264.1	259.1	250.9	245.5	249.1	255.9	259.1	252.7
55°	237.3	243.0	238.4	231.6	225.6	229.8	236.3	238.4	233.4
57.5°	220.2	224.5	220.2	212.7	207.0	210.2	216.3	219.1	214.1
60°	200.6	204.5	200.2	193.1	188.1	190.9	195.9	199.5	194.5
62.5°	180.9	184.9	179.9	173.5	168.8	172.0	176.3	179.5	174.9
65°	161.7	165.2	159.9	154.2	149.5	152.8	156.0	159.5	155.3
67.5°	142.0	145.3	140.3	134.6	130.6	133.1	136.0	139.5	136.0
70°	122.8	125.3	121.0	115.6	112.1	114.2	116.7	119.6	116.3
72.5°	103.5	106.7	101.4	97.1	93.9	94.6	97.4	99.6	97.1
75°	83.5	85.7	81.7	78.2	75.3	76.0	77.1	80.3	77.4
77.5°	65.0	67.5	64.2	61.0	58.9	59.6	60.0	62.1	59.2
80°	47.5	49.6	47.5	45.0	43.5	43.9	43.9	45.3	42.5
82.5°	31.8	33.9	32.5	30.7	30.3	29.6	29.6	30.7	27.8
85°	18.2	20.7	19.6	18.2	17.8	17.5	17.5	18.2	16.1
87.5°	8.2	10.0	8.9	7.9	7.1	6.8	6.8	7.9	6.1
90°	1.1	2.5	2.1	1.4	1.4	1.4	1.8	2.1	0.7
92.5°	3.9	4.6	4.6	4.6	4.6	5.4	5.7	5.7	6.8
95°	18.2	6.8	7.9	8.6	8.9	8.9	8.6	7.5	22.1
97.5°	37.8	30.0	9.6	10.7	11.4	11.1	10.4	38.2	42.8
100°	61.4	69.6	10.7	12.1	12.8	12.5	11.8	78.2	67.8
102.5°	87.4	97.1	38.5	13.6	13.9	13.6	58.9	105.3	96.7
105°	116.7	124.9	114.6	22.8	17.5	27.8	134.2	133.1	126.3
107.5°	146.3	154.5	156.3	101.4	91.7	106.4	164.2	162.0	157.0
110°	176.7	182.7	186.7	188.4	153.8	190.9	193.4	190.6	186.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	207.0	213.4	217.0	219.5	216.6	221.3	222.0	219.1	215.2
115°	236.3	242.0	245.5	249.5	248.4	250.2	251.6	247.7	244.1
117.5°	263.7	270.9	273.0	277.0	278.4	277.0	278.4	275.2	272.0
120°	292.7	298.4	299.8	303.4	305.1	303.0	304.8	301.9	298.4
122.5°	318.7	323.7	327.3	328.7	330.5	328.0	330.1	326.9	323.7
125°	343.3	348.7	354.0	353.7	355.5	352.6	355.1	351.2	348.3
127.5°	366.9	372.2	378.7	377.6	379.0	376.2	379.4	374.7	372.2
130°	389.7	396.2	401.9	400.4	401.9	399.4	402.2	397.9	395.4
132.5°	414.4	420.4	424.0	422.6	422.6	421.1	425.1	420.4	416.9
135°	437.9	441.8	445.4	443.3	443.3	441.8	446.1	441.8	437.6
137.5°	457.9	462.2	464.7	463.3	463.3	461.5	465.8	461.8	457.5
140°	477.2	481.1	483.2	481.5	481.5	480.0	484.3	481.1	476.5
142.5°	496.1	499.7	501.8	498.9	498.9	497.5	502.9	499.3	493.9
145°	514.6	517.1	519.6	515.4	515.7	513.6	520.0	516.4	511.4
147.5°	528.6	533.2	536.1	531.1	531.1	529.3	536.1	532.5	526.8
150°	545.3	547.1	550.3	546.1	545.7	544.3	550.7	546.8	541.8
152.5°	556.8	561.0	563.9	559.3	558.9	557.1	564.3	560.0	555.0
155°	570.7	572.5	576.0	571.8	570.7	570.0	576.7	571.4	567.5
157.5°	580.7	582.8	587.8	583.9	581.0	582.1	587.5	581.4	578.2
160°	591.0	591.7	597.5	593.5	590.3	591.7	597.1	589.6	588.5
162.5°	599.9	600.3	605.7	601.0	598.5	598.9	605.3	597.8	596.0
165°	606.4	605.7	611.0	607.1	605.3	605.3	611.0	604.2	603.9
167.5°	612.4	612.1	614.6	612.1	611.7	609.9	614.2	609.6	610.7
170°	617.1	615.7	617.1	613.5	613.5	611.7	617.4	613.5	614.9
172.5°	621.4	618.5	618.5	613.5	612.4	612.1	618.9	616.7	618.9
175°	622.4	619.9	618.9	613.5	609.2	612.4	619.2	617.8	621.4
177.5°	623.5	619.6	618.5	612.1	611.0	611.4	618.9	618.2	622.4
180°	616.4	616.4	616.4	616.4	616.4	616.4	616.4	616.4	616.4

(END OF REPORT)