

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: P199457

Luminaire Tested: **S123-DIP-ULO-1-35-X-X0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199457  
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-DIP-ULO-1-35-X-X0048-1D-UDD-1-NA-W  
Description: DEFINE 3-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE  
UPLIGHT LLO-3500K, NO LENS  
DOWNLIGHT LL1-3500K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4450.6 lumens  
Efficiency: N/A  
Efficacy: 111.0 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

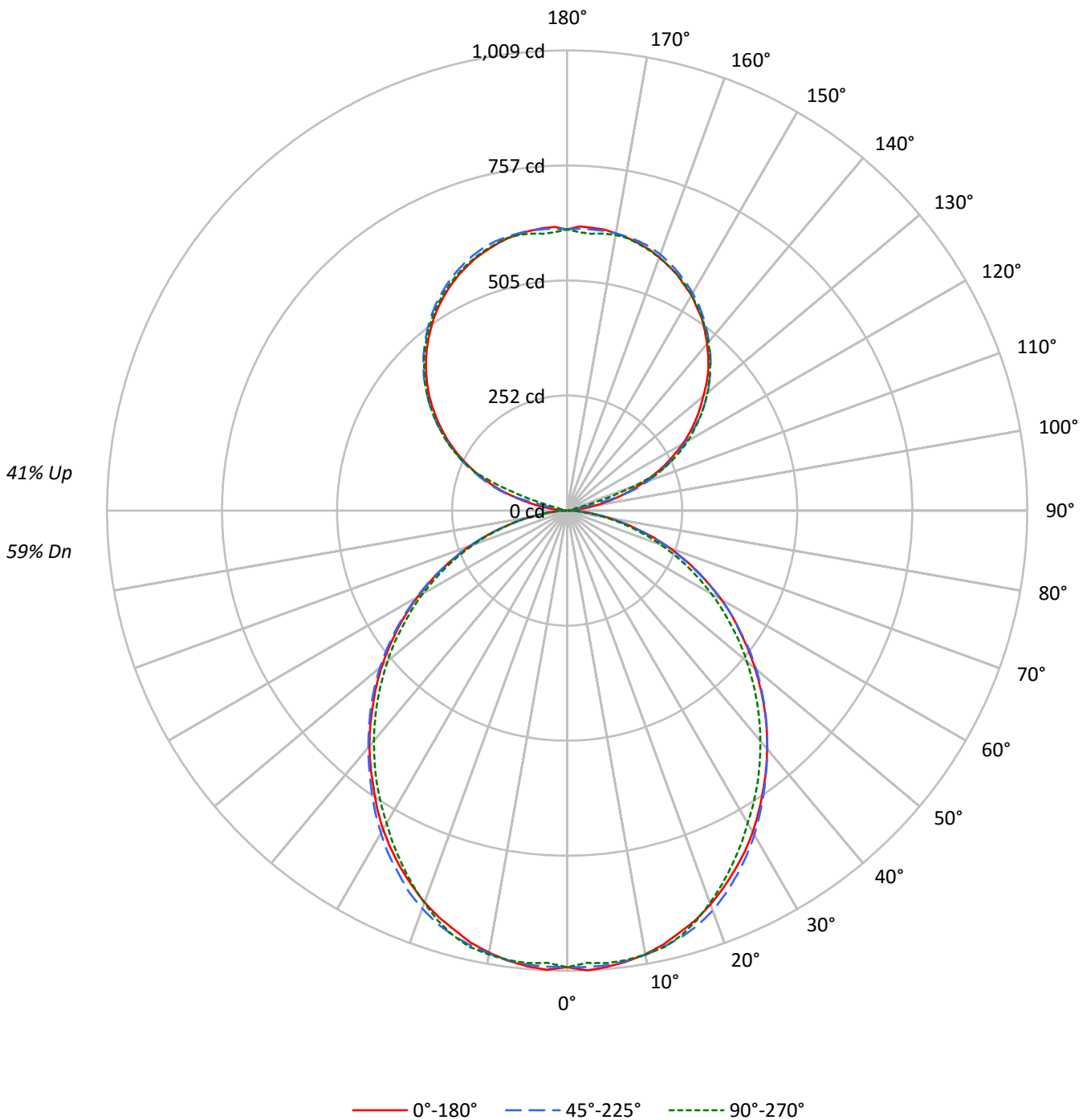
Input Watts (W): 40.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	102	102	102	102	88	88	88	76	76	76	64	64	64	59
1	100	95	91	88	93	89	86	83	77	75	73	67	65	63	57	56	54	50
2	91	83	77	72	85	78	73	68	68	64	60	59	56	53	50	48	46	42
3	83	73	66	60	77	69	62	57	60	55	51	52	48	45	44	41	39	35
4	76	65	57	51	71	61	54	48	53	48	43	46	42	38	40	36	34	30
5	70	58	50	44	65	54	47	41	48	42	37	42	37	33	36	32	29	26
6	64	52	44	38	60	49	41	36	43	37	33	38	33	29	32	29	26	23
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	30	26	23	20
8	55	43	35	29	51	40	33	28	36	30	26	31	27	23	27	23	21	18
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	19	16
10	48	36	29	24	45	34	27	23	30	25	21	27	22	19	23	20	17	15

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

	0°	90°	180°
0°	10554	10554	10554
5°	10545	9319	10532
10°	10407	8369	10370
15°	10197	7513	10145
20°	9977	6644	9924
25°	9702	5863	9639
30°	9412	5166	9332
35°	9064	4570	8955
40°	8717	4017	8619
45°	8347	3505	8225
50°	7949	3025	7836
55°	7507	2568	7382
60°	7101	2145	6887
65°	6558	1722	6297
70°	5881	1313	5573
75°	4930	905	4572
80°	3689	541	3302
85°	2089	231	1847



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.9	2.1
10°-20°	270.9	6.1
20°-30°	400.3	9.0
30°-40°	466.0	10.5
40°-50°	467.6	10.5
50°-60°	409.3	9.2
60°-70°	302.3	6.8
70°-80°	165.1	3.7
80°-90°	42.7	1.0
90°-100°	14.6	0.3
100°-110°	101.5	2.3
110°-120°	242.9	5.5
120°-130°	314.4	7.1
130°-140°	341.2	7.7
140°-150°	323.0	7.3
150°-160°	263.8	5.9
160°-170°	171.4	3.9
170°-180°	58.8	1.3
0°-30°	766.1	17.2
0°-40°	1232.1	27.7
0°-60°	2109.0	47.4
0°-90°	2619.1	58.8
90°-120°	358.9	8.1
90°-150°	1337.5	30.1
90°-180°	1832.0	41.2
0°-180°	4450.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1001	1001	1001	1001	1001	
5°	1004	1001	996	1000	1003	95
15°	957	968	965	965	952	270
25°	870	881	856	876	864	401
35°	749	752	728	748	740	469
45°	611	613	588	608	602	471
55°	462	464	439	460	454	415
65°	315	311	291	304	302	311
75°	162	159	147	150	151	173
85°	35	38	35	34	31	41
90°	2	4	3	4	1	3
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	



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CATALOG NUMBER: S123-DIP-ULO-1-35-X-X0048-1D-UDD-1-NA-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1000.9	1000.9	1000.9	1000.9	1000.9	1000.9	1000.9	1000.9	1000.9
2.5°	1009.2	998.8	1001.6	1000.2	992.5	1000.2	1000.9	998.1	1007.8
5°	1004.3	995.3	1000.9	998.8	996.0	998.8	999.5	993.9	1003.0
7.5°	997.4	989.8	996.0	995.3	993.9	995.3	994.6	987.0	995.3
10°	987.7	980.7	989.1	990.5	988.4	989.8	986.3	978.6	984.2
12.5°	974.5	968.9	979.3	982.1	980.7	981.4	976.6	965.4	971.0
15°	957.1	954.3	968.2	970.3	964.8	968.2	964.8	950.9	952.2
17.5°	940.4	937.7	952.9	950.2	942.5	948.1	948.8	933.5	934.9
20°	918.9	917.5	933.5	925.2	915.4	922.4	928.6	913.4	914.0
22.5°	895.3	896.7	908.5	896.7	887.0	893.9	905.7	891.1	889.7
25°	869.6	873.8	881.4	867.5	856.4	864.0	876.5	868.2	864.0
27.5°	843.2	849.5	852.2	836.3	825.1	832.8	848.8	843.2	836.3
30°	814.0	821.7	821.0	804.3	791.8	800.1	816.8	816.1	807.1
32.5°	782.1	792.5	786.9	771.0	760.5	766.8	783.5	785.6	775.1
35°	749.4	760.5	752.2	736.9	727.9	734.2	748.0	754.3	740.4
37.5°	716.1	727.2	717.5	702.9	693.9	700.1	713.3	721.0	707.8
40°	682.1	692.5	682.8	670.3	659.1	666.1	677.9	686.2	674.4
42.5°	647.3	658.4	648.0	635.5	623.7	632.7	643.2	651.5	639.0
45°	611.2	623.0	613.3	598.7	587.6	596.6	608.4	615.4	602.2
47.5°	574.4	588.3	577.2	561.9	550.8	559.8	572.3	579.3	566.8
50°	537.6	549.4	541.1	525.1	514.0	522.3	536.2	541.8	530.0
52.5°	500.1	514.0	504.3	488.3	477.9	484.8	498.0	504.3	491.8
55°	461.9	473.0	464.0	450.8	439.0	447.3	459.8	464.0	454.2
57.5°	428.5	436.9	428.5	414.0	402.8	409.1	420.9	426.5	416.7
60°	390.3	398.0	389.7	375.8	366.0	371.6	381.3	388.3	378.5
62.5°	352.1	359.8	350.1	337.6	328.5	334.8	343.1	349.4	340.3
65°	314.6	321.6	311.2	300.1	291.0	297.3	303.5	310.5	302.1
67.5°	276.4	282.7	273.0	261.9	254.2	259.1	264.6	271.6	264.6
70°	238.9	243.8	235.5	225.0	218.1	222.3	227.1	232.7	226.4
72.5°	201.4	207.7	197.3	188.9	182.7	184.1	189.6	193.8	188.9
75°	162.5	166.7	159.1	152.1	146.6	147.9	150.0	156.3	150.7
77.5°	126.4	131.3	125.0	118.8	114.6	116.0	116.7	120.9	115.3
80°	92.4	96.5	92.4	87.5	84.7	85.4	85.4	88.2	82.7
82.5°	61.8	66.0	63.2	59.7	59.0	57.6	57.6	59.7	54.2
85°	35.4	40.3	38.2	35.4	34.7	34.0	34.0	35.4	31.3
87.5°	16.0	19.4	17.4	15.3	13.9	13.2	13.2	15.3	11.8
90°	2.1	4.9	4.2	2.8	2.8	2.8	3.5	4.2	1.4
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)