

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: P199482

Luminaire Tested: **S124-DIP-U1-LO-40-X-X0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199482  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P28062 P28061)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124-DIP-U1-LO-40-X-X0048-1D-UDD-1-NA-W  
Description: DEFINE 4-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE  
UPLIGHT LL1-4000K, NO LENS  
DOWNLIGHT LLO-4000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5139.8 lumens  
Efficiency: N/A  
Efficacy: 132.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.14 / 1.28  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4.08' x H: 0.38')  
CIE Type: Semi-Indirect

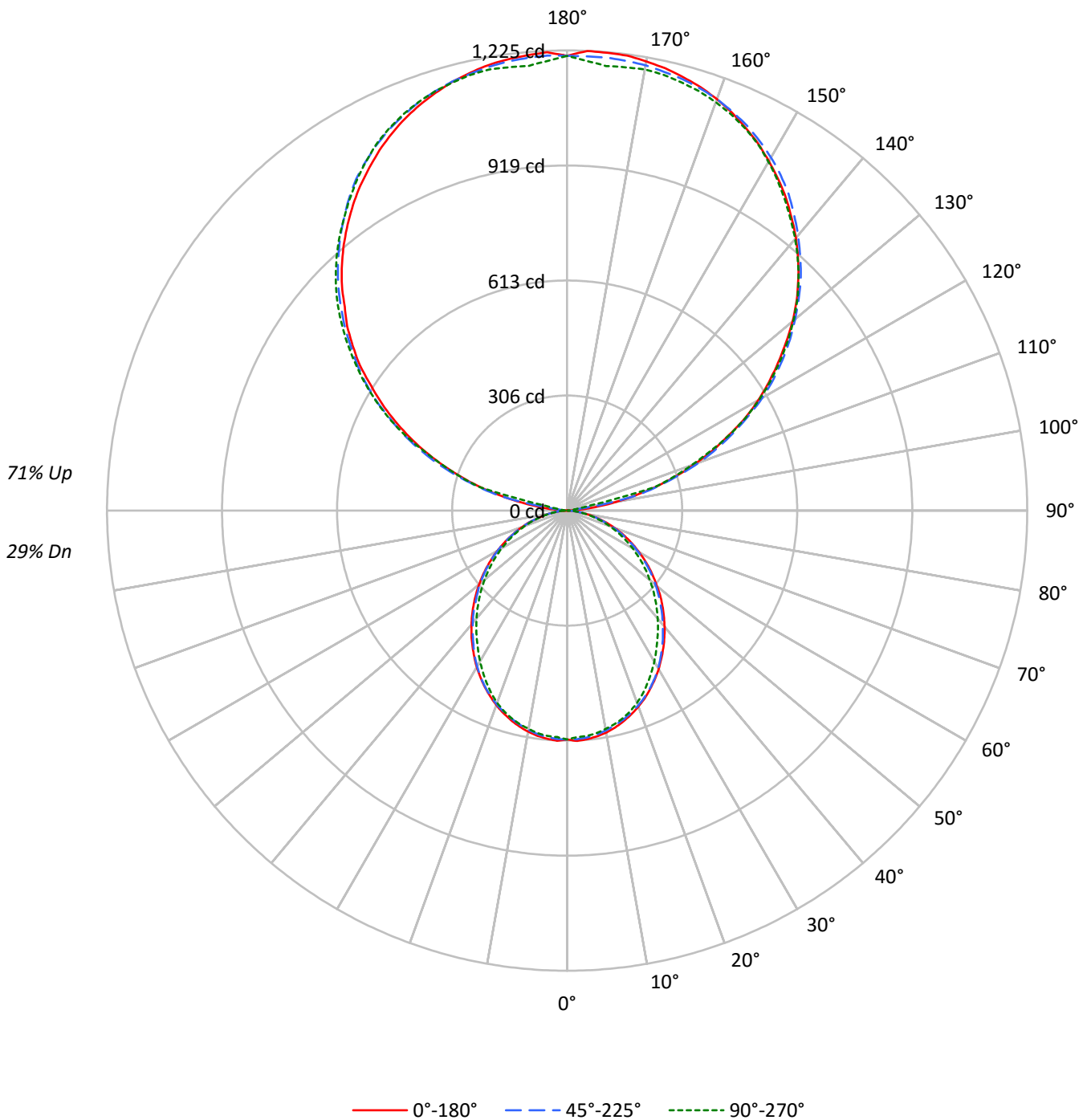
Input Watts (W): 38.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	29
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	31	25
2	85	78	72	67	76	70	65	61	55	52	49	42	39	37	29	28	27	21
3	77	68	61	56	69	62	56	51	49	44	41	37	34	32	26	24	23	18
4	71	60	53	47	63	54	48	43	43	39	35	33	30	27	23	21	20	15
5	65	54	46	40	58	48	42	37	39	34	30	29	26	23	21	19	17	13
6	60	48	40	35	53	43	37	32	35	30	26	26	23	20	19	17	15	12
7	55	43	36	30	49	39	32	28	31	26	23	24	21	18	17	15	13	10
8	51	39	32	27	46	35	29	24	28	24	20	22	19	16	16	14	12	9
9	47	36	28	24	42	32	26	22	26	21	18	20	17	14	15	12	11	8
10	44	33	26	21	40	30	23	19	24	19	16	19	15	13	13	11	10	8

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

	0°	90°	180°
0°	4819	4819	4819
5°	4810	4354	4802
10°	4743	3955	4722
15°	4639	3600	4616
20°	4521	3251	4489
25°	4378	2899	4338
30°	4227	2568	4173
35°	4047	2262	3990
40°	3867	1992	3799
45°	3672	1743	3601
50°	3452	1508	3391
55°	3256	1290	3170
60°	3012	1081	2926
65°	2770	877	2661
70°	2463	675	2347
75°	2071	474	1921
80°	1554	289	1455
85°	912	128	863



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.4	1.1
10°-20°	161.7	3.1
20°-30°	236.9	4.6
30°-40°	271.6	5.3
40°-50°	267.7	5.2
50°-60°	230.8	4.5
60°-70°	168.3	3.3
70°-80°	91.8	1.8
80°-90°	24.1	0.5
90°-100°	30.8	0.6
100°-110°	244.6	4.8
110°-120°	473.4	9.2
120°-130°	615.6	12.0
130°-140°	668.3	13.0
140°-150°	632.3	12.3
150°-160°	515.8	10.0
160°-170°	333.9	6.5
170°-180°	114.9	2.2
0°-30°	456.0	8.9
0°-40°	727.6	14.2
0°-60°	1226.1	23.9
0°-90°	1510.2	29.4
90°-120°	748.8	14.6
90°-150°	2665.0	51.9
90°-180°	3630.0	70.6
0°-180°	5139.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	609	609	609	609	609	
5°	611	606	602	606	610	58
15°	581	576	572	573	578	164
25°	523	522	507	517	518	241
35°	446	441	419	435	440	279
45°	358	351	331	345	352	277
55°	267	263	244	257	260	238
65°	177	173	160	169	170	175
75°	91	88	81	84	84	97
85°	21	21	20	20	20	23
90°	1	2	1	2	1	3
95°	42	11	12	12	38	54
105°	244	250	240	244	237	257
115°	475	488	478	481	463	471
125°	685	700	691	684	673	613
135°	870	880	871	862	848	671
145°	1016	1028	1010	1013	994	635
155°	1124	1131	1122	1120	1106	519
165°	1194	1189	1179	1182	1182	337
175°	1223	1210	1188	1210	1217	116
180°	1210	1210	1210	1210	1210	



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CATALOG NUMBER: S124-DIP-U1-LO-40-X-X0048-1D-UDD-1-NA-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4
2.5°	613.8	606.8	609.0	607.5	603.5	607.5	608.6	606.4	613.1
5°	610.8	604.2	606.4	604.2	602.4	603.8	605.7	603.1	609.7
7.5°	606.4	599.4	601.3	599.4	597.6	599.1	600.2	597.9	604.9
10°	600.2	592.8	594.6	592.4	590.2	591.7	592.8	590.6	597.6
12.5°	591.3	584.3	585.8	584.3	582.5	582.8	583.6	581.4	588.7
15°	580.6	573.6	576.2	574.7	572.2	573.6	573.3	570.7	577.7
17.5°	568.5	561.8	564.8	563.3	559.6	561.8	561.8	557.8	565.2
20°	555.2	548.2	552.3	548.6	544.5	546.7	548.6	543.8	551.2
22.5°	540.5	533.1	537.9	531.3	526.8	529.4	533.8	528.7	535.3
25°	523.2	517.3	521.7	512.5	506.6	510.3	517.3	512.1	518.4
27.5°	506.2	500.3	504.0	493.7	485.6	490.4	499.2	494.8	500.3
30°	487.4	482.6	484.5	472.3	463.8	469.0	479.3	476.7	481.2
32.5°	466.8	463.1	463.1	450.2	441.4	447.3	458.3	457.6	460.5
35°	446.2	443.9	441.4	427.4	418.9	424.4	435.1	438.1	439.9
37.5°	425.2	423.7	418.9	405.3	397.2	403.1	413.0	417.4	418.5
40°	403.4	402.7	396.1	383.2	375.1	380.9	391.3	396.8	396.4
42.5°	381.3	382.1	373.9	361.4	353.3	359.2	368.8	376.2	374.3
45°	358.5	360.7	351.1	339.7	331.2	337.5	345.2	354.4	351.5
47.5°	336.4	338.9	329.0	317.2	309.1	315.7	323.5	333.4	329.0
50°	311.3	316.5	306.9	295.1	287.0	293.3	302.5	310.9	305.8
52.5°	289.6	293.3	284.8	273.4	265.6	270.8	280.0	288.5	282.9
55°	267.1	271.2	262.7	251.3	243.9	249.1	257.2	265.6	260.1
57.5°	243.5	247.6	239.8	229.5	222.5	228.1	236.5	242.4	237.3
60°	220.7	225.8	217.4	207.4	201.5	205.9	212.6	219.6	214.4
62.5°	198.6	203.4	195.3	186.1	180.5	184.6	191.6	197.1	192.3
65°	177.2	180.2	173.2	164.7	159.9	162.5	168.7	175.0	170.2
67.5°	155.5	158.4	151.4	144.1	139.3	141.8	147.0	152.9	148.5
70°	133.4	135.9	130.1	123.4	119.4	121.9	126.7	131.2	127.1
72.5°	112.4	114.2	108.7	103.5	100.6	102.4	105.7	109.8	107.9
75°	91.0	93.2	87.7	83.3	80.7	81.4	84.0	87.3	84.4
77.5°	70.7	72.9	68.5	65.2	63.7	64.1	65.9	68.5	64.8
80°	51.9	53.8	51.2	48.3	46.8	47.5	48.6	50.1	48.6
82.5°	35.0	36.8	35.0	33.2	32.1	32.8	33.2	33.9	32.8
85°	20.6	22.1	21.0	19.9	19.5	19.5	19.9	20.6	19.5
87.5°	9.2	10.3	9.6	8.8	7.7	8.1	8.5	9.2	8.5
90°	0.7	1.8	1.5	1.1	1.1	1.1	1.5	1.8	0.7
92.5°	13.6	7.2	7.2	7.2	7.2	7.2	7.2	7.9	9.3
95°	42.3	27.2	10.8	11.5	11.5	11.5	11.5	18.6	38.0
97.5°	82.5	96.1	20.8	13.6	13.6	13.6	20.8	91.1	76.7
100°	130.5	143.4	104.7	33.0	24.4	30.8	91.8	135.5	124.0
102.5°	184.3	200.8	192.9	108.3	62.4	92.5	187.1	192.2	179.2
105°	243.8	258.1	250.2	253.8	240.2	244.5	244.5	247.4	236.6
107.5°	302.6	314.8	310.5	307.6	296.8	299.7	306.9	305.4	293.2
110°	361.4	373.5	373.5	364.2	351.3	356.3	367.8	360.6	350.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	420.2	429.5	431.6	426.6	411.5	418.7	425.2	413.7	407.2
115°	475.4	489.0	487.5	488.3	477.5	477.5	481.1	472.5	463.2
117.5°	534.9	544.9	542.8	543.5	536.3	533.4	532.7	527.0	516.9
120°	587.2	598.7	600.1	595.1	590.1	584.3	587.9	580.0	569.3
122.5°	636.7	649.6	651.7	646.7	641.7	635.2	638.1	629.5	619.5
125°	685.4	699.8	699.8	696.2	691.2	684.7	684.0	676.8	673.2
127.5°	734.2	750.7	747.8	744.2	739.9	732.8	729.2	724.9	719.1
130°	783.7	795.1	792.3	789.4	786.5	777.9	775.1	770.8	764.3
132.5°	828.8	835.3	836.7	831.0	831.0	820.2	819.5	814.5	803.0
135°	870.4	876.9	879.7	871.1	871.1	860.4	862.5	855.4	848.2
137.5°	909.9	914.9	918.5	908.4	909.1	899.1	902.7	890.5	887.6
140°	947.9	950.0	956.5	945.7	944.3	935.7	940.7	928.5	924.9
142.5°	981.6	984.4	992.3	980.8	977.3	970.8	977.3	962.2	960.0
145°	1016.0	1016.7	1028.2	1014.5	1010.2	1005.2	1013.1	995.2	993.7
147.5°	1046.1	1044.6	1058.3	1046.8	1042.5	1037.5	1046.1	1025.3	1025.3
150°	1074.0	1072.6	1085.5	1076.2	1071.9	1067.6	1072.6	1053.3	1053.3
152.5°	1101.3	1096.3	1109.2	1101.3	1099.9	1093.4	1097.7	1079.1	1081.9
155°	1124.2	1119.2	1131.4	1124.9	1122.1	1117.1	1119.9	1102.0	1106.3
157.5°	1146.5	1138.6	1149.3	1146.5	1141.4	1138.6	1138.6	1124.2	1129.3
160°	1165.8	1156.5	1165.8	1161.5	1157.2	1153.6	1156.5	1142.2	1148.6
162.5°	1181.6	1173.0	1178.0	1172.3	1170.1	1164.4	1170.1	1158.6	1165.8
165°	1194.5	1185.2	1188.8	1180.9	1179.4	1175.1	1182.3	1174.4	1181.6
167.5°	1206.0	1197.4	1195.9	1188.0	1188.0	1182.3	1190.9	1186.6	1193.8
170°	1213.9	1206.7	1203.8	1192.3	1192.3	1187.3	1199.5	1195.9	1204.5
172.5°	1221.7	1212.4	1207.4	1195.2	1190.2	1190.9	1206.0	1203.1	1211.7
175°	1223.2	1216.0	1210.3	1197.4	1188.0	1194.5	1209.6	1210.3	1216.7
177.5°	1224.6	1217.4	1210.3	1199.5	1198.1	1196.6	1212.4	1211.7	1221.0
180°	1210.3	1210.3	1210.3	1210.3	1210.3	1210.3	1210.3	1210.3	1210.3

(END OF REPORT)