

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: P199468

Luminaire Tested: **S124-DIW-U1-1-35-0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199468  
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-DIW-U1-1-35-0048-1D-UDD-1-NA-W  
Description: DEFINE 4-INCH DIRECT/INDIRECT WALL LED LUMINAIRE  
UPLIGHT LL1-3500K, NO LENS  
DOWNLIGHT LL1-3500K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

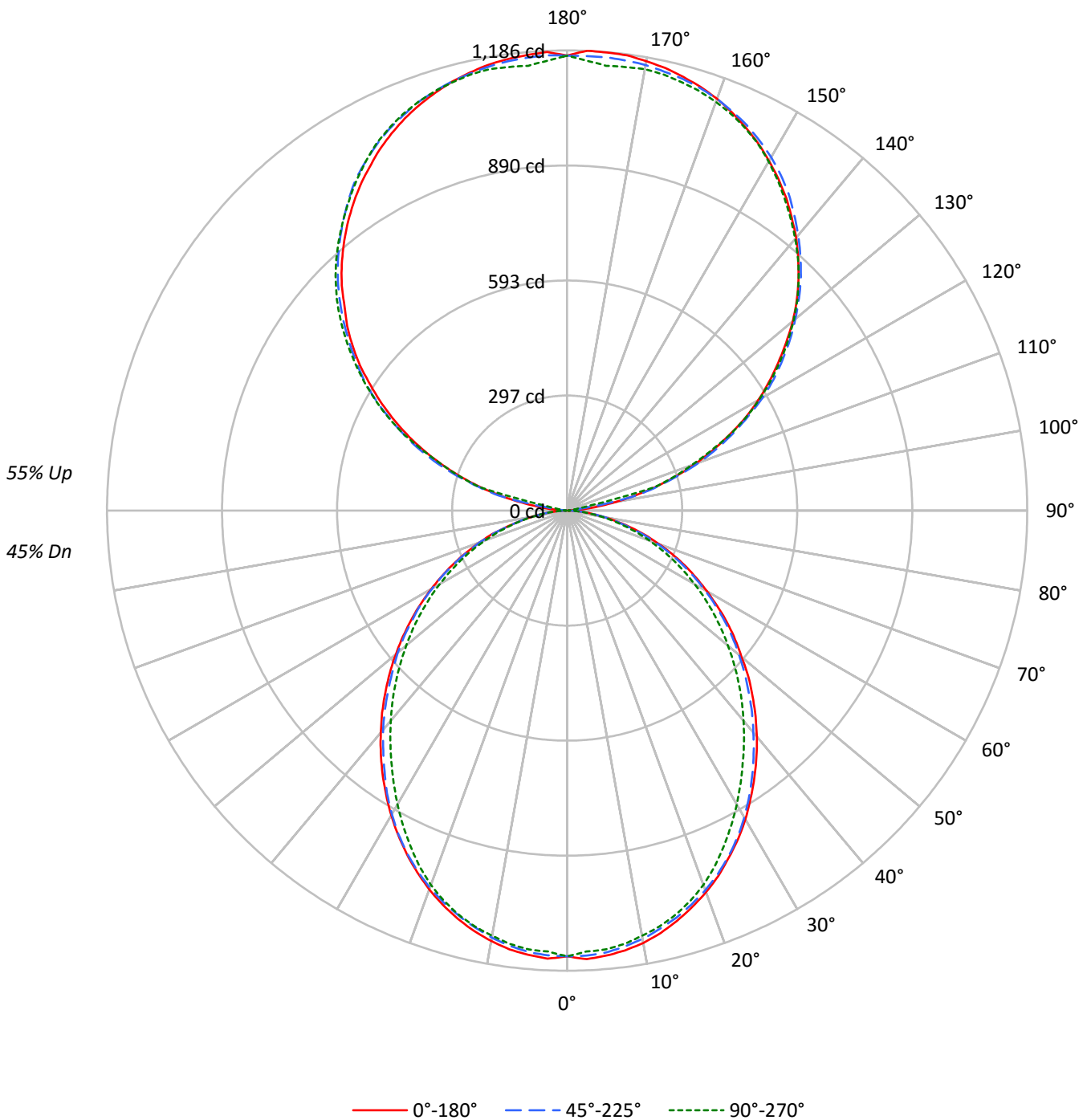
Lumens per Lamp: N/A  
Luminaire Lumens: 6363.4 lumens  
Efficiency: N/A  
Efficacy: 122.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.14 / 1.28  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4.08' x H: 0.38')  
CIE Type: General Diffuse

Input Watts (W): 52  
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																		
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	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	45									45																			
1	97	92	89	85	88	85	82	79	71	68	66	58	56	54	45	44	43	38									38																			
2	88	81	75	70	80	74	69	65	62	58	55	51	48	46	40	38	37	32									32																			
3	80	71	64	58	73	65	59	54	55	50	46	45	41	39	36	33	31	27									27																			
4	74	63	55	49	67	58	51	46	49	43	39	40	36	33	32	29	27	23									23																			
5	68	56	48	42	62	52	45	39	43	38	34	36	32	29	29	26	24	20									20																			
6	62	50	42	37	57	46	39	34	39	34	30	32	28	25	26	23	21	18									18																			
7	57	45	37	32	53	42	35	30	36	30	26	29	25	22	24	21	19	16									16																			
8	53	41	34	28	49	38	31	27	32	27	23	27	23	20	22	19	17	14									14																			
9	50	38	30	25	45	35	28	24	30	24	21	25	21	18	20	17	15	13									13																			
10	46	34	27	23	43	32	26	21	27	22	19	23	19	16	19	16	14	12									12																			

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

	0°	90°	180°
0°	9085	9085	9085
5°	9069	8207	9053
10°	8941	7456	8903
15°	8747	6786	8703
20°	8524	6130	8462
25°	8253	5466	8178
30°	7969	4841	7866
35°	7630	4265	7523
40°	7289	3755	7164
45°	6922	3286	6787
50°	6508	2844	6393
55°	6138	2432	5977
60°	5677	2038	5516
65°	5223	1653	5017
70°	4642	1272	4424
75°	3905	894	3620
80°	2932	544	2746
85°	1722	241	1629



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.2	1.7
10°-20°	304.9	4.8
20°-30°	446.7	7.0
30°-40°	511.9	8.0
40°-50°	504.7	7.9
50°-60°	435.0	6.8
60°-70°	317.2	5.0
70°-80°	173.0	2.7
80°-90°	45.4	0.7
90°-100°	29.9	0.5
100°-110°	237.0	3.7
110°-120°	458.6	7.2
120°-130°	596.4	9.4
130°-140°	647.4	10.2
140°-150°	612.6	9.6
150°-160°	499.7	7.9
160°-170°	323.5	5.1
170°-180°	111.3	1.7
0°-30°	859.8	13.5
0°-40°	1371.7	21.6
0°-60°	2311.5	36.3
0°-90°	2847.1	44.7
90°-120°	725.6	11.4
90°-150°	2581.8	40.6
90°-180°	3516.0	55.3
0°-180°	6363.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1149	1149	1149	1149	1149	
5°	1152	1143	1136	1142	1150	109
15°	1095	1086	1079	1081	1089	308
25°	986	984	955	975	977	454
35°	841	832	790	820	829	526
45°	676	662	624	651	663	521
55°	504	495	460	485	490	449
65°	334	326	301	318	321	330
75°	172	165	152	158	159	182
85°	39	40	37	38	37	44
90°	1	3	2	3	1	5
95°	41	10	11	11	37	52
105°	236	242	233	237	229	249
115°	460	472	463	466	449	456
125°	664	678	670	663	652	594
135°	843	852	844	836	822	650
145°	984	996	979	981	963	615
155°	1089	1096	1087	1085	1072	502
165°	1157	1152	1143	1145	1145	327
175°	1185	1172	1151	1172	1179	113
180°	1172	1172	1172	1172	1172	



TEST NUMBER: P199468

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1148.8	1148.8	1148.8	1148.8	1148.8	1148.8	1148.8	1148.8	1148.8
2.5°	1157.1	1143.9	1148.1	1145.3	1137.7	1145.3	1147.4	1143.3	1155.8
5°	1151.6	1139.1	1143.3	1139.1	1135.6	1138.4	1141.9	1137.0	1149.5
7.5°	1143.3	1130.1	1133.5	1130.1	1126.6	1129.4	1131.4	1127.3	1140.5
10°	1131.4	1117.6	1121.0	1116.9	1112.7	1115.5	1117.6	1113.4	1126.6
12.5°	1114.8	1101.6	1104.4	1101.6	1098.1	1098.8	1100.2	1096.0	1109.9
15°	1094.6	1081.4	1086.3	1083.5	1078.7	1081.4	1080.7	1075.9	1089.1
17.5°	1071.7	1059.2	1064.8	1062.0	1055.0	1059.2	1059.2	1051.6	1065.5
20°	1046.7	1033.5	1041.2	1034.2	1026.6	1030.7	1034.2	1025.2	1039.1
22.5°	1018.9	1005.0	1014.1	1001.6	993.2	998.1	1006.4	996.7	1009.2
25°	986.3	975.2	983.5	966.1	955.0	962.0	975.2	965.4	977.3
27.5°	954.3	943.2	950.2	930.7	915.4	924.5	941.1	932.8	943.2
30°	918.9	909.9	913.4	890.4	874.5	884.2	903.6	898.8	907.1
32.5°	880.0	873.1	873.1	848.8	832.1	843.2	864.0	862.7	868.2
35°	841.1	837.0	832.1	805.7	789.7	800.1	820.3	825.8	829.3
37.5°	801.5	798.8	789.7	764.0	748.7	759.9	778.6	786.9	789.0
40°	760.5	759.2	746.7	722.3	707.1	718.2	737.6	748.0	747.4
42.5°	718.9	720.3	705.0	681.4	666.1	677.2	695.3	709.2	705.7
45°	675.8	680.0	661.9	640.4	624.4	636.2	650.8	668.2	662.6
47.5°	634.1	639.0	620.2	598.0	582.7	595.2	609.8	628.6	620.2
50°	586.9	596.6	578.6	556.3	541.1	552.9	570.2	586.2	576.5
52.5°	545.9	552.9	536.9	515.4	500.8	510.5	527.9	543.8	533.4
55°	503.6	511.2	495.2	473.7	459.8	469.5	484.8	500.8	490.4
57.5°	459.1	466.7	452.2	432.7	419.5	429.9	445.9	457.0	447.3
60°	416.0	425.8	409.8	391.0	379.9	388.3	400.8	414.0	404.2
62.5°	374.4	383.4	368.1	350.8	340.3	348.0	361.2	371.6	362.6
65°	334.1	339.6	326.4	310.5	301.4	306.3	318.1	329.9	320.9
67.5°	293.1	298.7	285.5	271.6	262.5	267.4	277.1	288.2	279.9
70°	251.4	256.3	245.2	232.7	225.0	229.9	238.9	247.3	239.6
72.5°	211.8	215.3	204.9	195.2	189.6	193.1	199.3	207.0	203.5
75°	171.6	175.7	165.3	157.0	152.1	153.5	158.4	164.6	159.1
77.5°	133.4	137.5	129.2	122.9	120.2	120.9	124.3	129.2	122.2
80°	97.9	101.4	96.5	91.0	88.2	89.6	91.7	94.5	91.7
82.5°	66.0	69.5	66.0	62.5	60.4	61.8	62.5	63.9	61.8
85°	38.9	41.7	39.6	37.5	36.8	36.8	37.5	38.9	36.8
87.5°	17.4	19.4	18.1	16.7	14.6	15.3	16.0	17.4	16.0
90°	1.4	3.5	2.8	2.1	2.1	2.1	2.8	3.5	1.4
92.5°	13.2	6.9	6.9	6.9	6.9	6.9	6.9	7.6	9.0
95°	41.0	26.4	10.4	11.1	11.1	11.1	11.1	18.1	36.8
97.5°	79.9	93.1	20.1	13.2	13.2	13.2	20.1	88.2	74.3
100°	126.4	138.9	101.4	32.0	23.6	29.9	88.9	131.3	120.2
102.5°	178.5	194.5	186.8	104.9	60.4	89.6	181.3	186.1	173.6
105°	236.2	250.0	242.4	245.9	232.7	236.8	236.8	239.6	229.2
107.5°	293.1	304.9	300.7	298.0	287.6	290.3	297.3	295.9	284.1
110°	350.1	361.9	361.9	352.8	340.3	345.2	356.3	349.4	339.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	407.0	416.0	418.1	413.3	398.7	405.6	411.9	400.8	394.5
115°	460.5	473.7	472.3	473.0	462.6	462.6	466.1	457.7	448.7
117.5°	518.1	527.9	525.8	526.5	519.5	516.8	516.1	510.5	500.8
120°	568.8	580.0	581.4	576.5	571.6	566.1	569.5	561.9	551.5
122.5°	616.8	629.3	631.4	626.5	621.6	615.4	618.2	609.8	600.1
125°	664.0	677.9	677.9	674.4	669.6	663.3	662.6	655.7	652.2
127.5°	711.2	727.2	724.4	721.0	716.8	709.8	706.4	702.2	696.6
130°	759.2	770.3	767.5	764.7	761.9	753.6	750.8	746.7	740.4
132.5°	802.9	809.2	810.6	805.0	805.0	794.6	793.9	789.0	777.9
135°	843.2	849.5	852.2	843.9	843.9	833.5	835.6	828.6	821.7
137.5°	881.4	886.3	889.7	880.0	880.7	871.0	874.5	862.7	859.9
140°	918.2	920.3	926.6	916.1	914.7	906.4	911.3	899.5	896.0
142.5°	950.9	953.6	961.3	950.2	946.7	940.4	946.7	932.1	930.0
145°	984.2	984.9	996.0	982.8	978.6	973.8	981.4	964.1	962.7
147.5°	1013.4	1012.0	1025.2	1014.1	1009.9	1005.0	1013.4	993.2	993.2
150°	1040.5	1039.1	1051.6	1042.5	1038.4	1034.2	1039.1	1020.3	1020.3
152.5°	1066.9	1062.0	1074.5	1066.9	1065.5	1059.2	1063.4	1045.3	1048.1
155°	1089.1	1084.2	1096.0	1089.8	1087.0	1082.1	1084.9	1067.5	1071.7
157.5°	1110.6	1103.0	1113.4	1110.6	1105.7	1103.0	1103.0	1089.1	1093.9
160°	1129.4	1120.3	1129.4	1125.2	1121.0	1117.6	1120.3	1106.4	1112.7
162.5°	1144.6	1136.3	1141.2	1135.6	1133.5	1128.0	1133.5	1122.4	1129.4
165°	1157.1	1148.1	1151.6	1143.9	1142.6	1138.4	1145.3	1137.7	1144.6
167.5°	1168.3	1159.9	1158.5	1150.9	1150.9	1145.3	1153.7	1149.5	1156.5
170°	1175.9	1169.0	1166.2	1155.1	1155.1	1150.2	1162.0	1158.5	1166.9
172.5°	1183.5	1174.5	1169.6	1157.8	1153.0	1153.7	1168.3	1165.5	1173.8
175°	1184.9	1178.0	1172.4	1159.9	1150.9	1157.1	1171.7	1172.4	1178.7
177.5°	1186.3	1179.4	1172.4	1162.0	1160.6	1159.2	1174.5	1173.8	1182.8
180°	1172.4	1172.4	1172.4	1172.4	1172.4	1172.4	1172.4	1172.4	1172.4

(END OF REPORT)