

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: P199440

Luminaire Tested: **S123-DIW-U1-1-40-0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199440  
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-U1-1-40-0048-1D-UDD-1-NA-W  
Description: DEFINE 3-INCH DIRECT/INDIRECT WALL LED LUMINAIRE  
UPLIGHT LL1-4000K, NO LENS  
DOWNLIGHT LL1-4000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

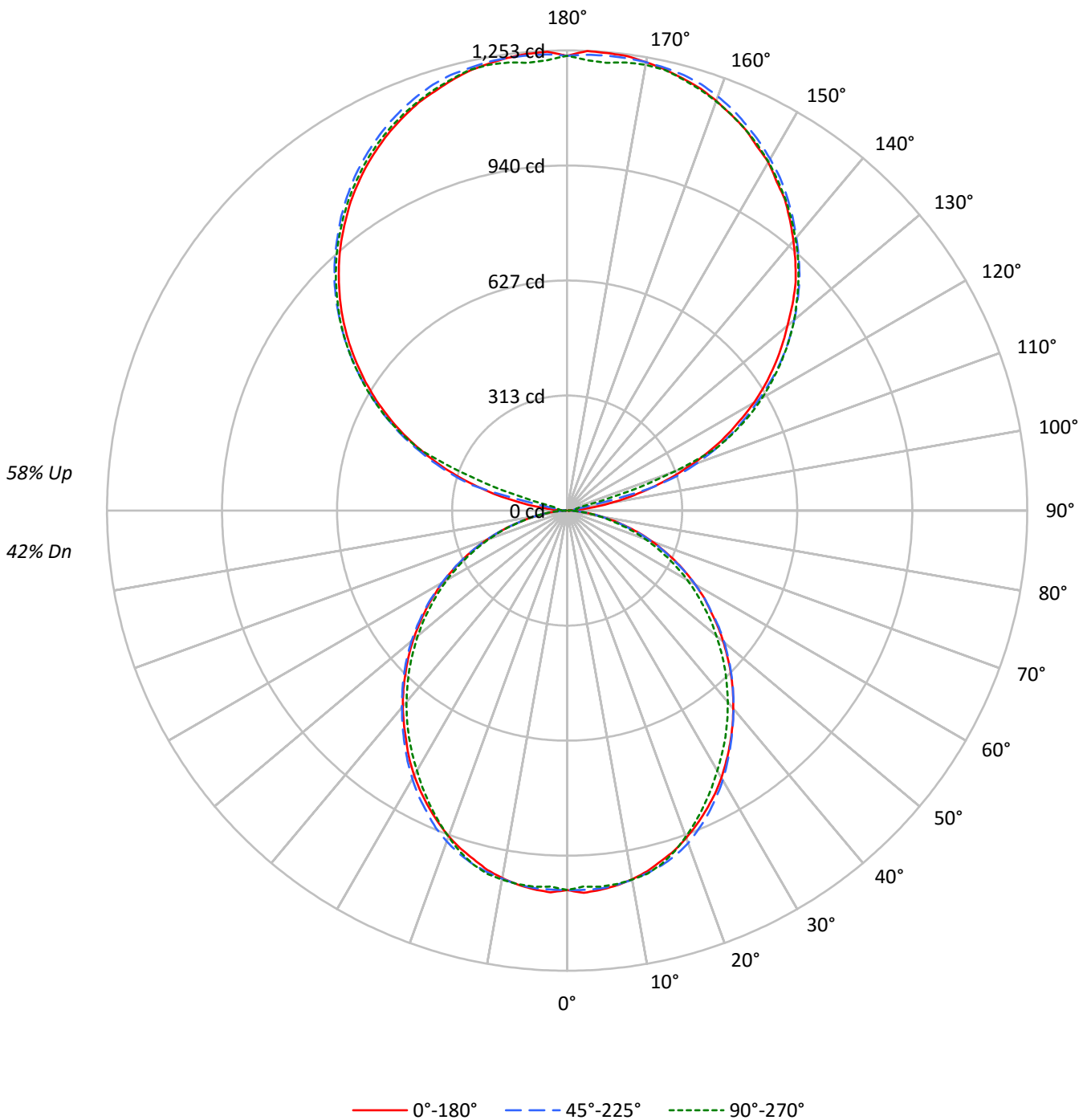
Lumens per Lamp: N/A  
Luminaire Lumens: 6382.5 lumens  
Efficiency: N/A  
Efficacy: 122.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.32  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4.08' x H: 0.38')  
CIE Type: General Diffuse

Input Watts (W): 52  
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: P199440

CATALOG NUMBER: S123-DIW-U1-1-40-0048-1D-UDD-1-NA-W

### Luminous Intensity Polar Plot





TEST NUMBER: P199440

CATALOG NUMBER: S123-DIW-U1-1-40-0048-1D-UDD-1-NA-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	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°	10894	10894	10894
5°	10887	9620	10871
10°	10743	8639	10705
15°	10526	7755	10473
20°	10300	6859	10246
25°	10015	6052	9951
30°	9716	5333	9633
35°	9356	4717	9244
40°	8998	4146	8897
45°	8617	3618	8490
50°	8205	3122	8089
55°	7749	2651	7620
60°	7331	2215	7110
65°	6770	1777	6501
70°	6071	1355	5753
75°	5091	934	4721
80°	3809	559	3406
85°	2160	239	1906



TEST NUMBER: P199440

CATALOG NUMBER: S123-DIW-U1-1-40-0048-1D-UDD-1-NA-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.0	1.5
10°-20°	279.6	4.4
20°-30°	413.3	6.5
30°-40°	481.0	7.5
40°-50°	482.7	7.6
50°-60°	422.5	6.6
60°-70°	312.1	4.9
70°-80°	170.4	2.7
80°-90°	44.1	0.7
90°-100°	28.9	0.5
100°-110°	203.9	3.2
110°-120°	487.9	7.6
120°-130°	631.5	9.9
130°-140°	685.4	10.7
140°-150°	648.9	10.2
150°-160°	530.0	8.3
160°-170°	344.3	5.4
170°-180°	118.1	1.9
0°-30°	790.9	12.4
0°-40°	1271.9	19.9
0°-60°	2177.1	34.1
0°-90°	2703.6	42.4
90°-120°	720.6	11.3
90°-150°	2686.4	42.1
90°-180°	3679.0	57.6
0°-180°	6382.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1033	1033	1033	1033	1033	
5°	1037	1033	1028	1032	1035	98
15°	988	1000	996	996	983	279
25°	898	910	884	905	892	414
35°	774	776	751	772	764	484
45°	631	633	607	628	622	487
55°	477	479	453	475	469	428
65°	325	321	300	313	312	321
75°	168	164	151	155	156	179
85°	37	39	36	35	32	43
90°	2	4	3	4	1	4
95°	37	16	18	17	44	48
105°	234	230	35	270	254	249
115°	475	493	499	506	490	468
125°	690	711	714	713	700	616
135°	880	895	890	896	879	676
145°	1034	1044	1036	1045	1027	645
155°	1146	1157	1146	1159	1140	528
165°	1218	1228	1216	1228	1213	344
175°	1250	1243	1224	1244	1248	119
180°	1238	1238	1238	1238	1238	



TEST NUMBER: P199440

CATALOG NUMBER: S123-DIW-U1-1-40-0048-1D-UDD-1-NA-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1033.2	1033.2	1033.2	1033.2	1033.2	1033.2	1033.2	1033.2	1033.2
2.5°	1041.8	1031.0	1033.9	1032.5	1024.6	1032.5	1033.2	1030.3	1040.3
5°	1036.8	1027.4	1033.2	1031.0	1028.2	1031.0	1031.7	1026.0	1035.3
7.5°	1029.6	1021.7	1028.2	1027.4	1026.0	1027.4	1026.7	1018.8	1027.4
10°	1019.6	1012.4	1021.0	1022.4	1020.3	1021.7	1018.1	1010.2	1016.0
12.5°	1005.9	1000.2	1010.9	1013.8	1012.4	1013.1	1008.1	996.6	1002.3
15°	988.0	985.1	999.5	1001.6	995.9	999.5	995.9	981.6	983.0
17.5°	970.8	967.9	983.7	980.8	972.9	978.7	979.4	963.6	965.1
20°	948.6	947.1	963.6	955.0	945.0	952.2	958.6	942.8	943.6
22.5°	924.2	925.6	937.8	925.6	915.6	922.8	934.9	919.9	918.5
25°	897.7	902.0	909.9	895.5	884.0	891.9	904.8	896.2	891.9
27.5°	870.4	876.9	879.7	863.3	851.8	859.7	876.2	870.4	863.3
30°	840.3	848.2	847.5	830.3	817.4	826.0	843.2	842.5	833.1
32.5°	807.3	818.1	812.3	795.9	785.1	791.6	808.8	810.9	800.2
35°	773.6	785.1	776.5	760.7	751.4	757.9	772.2	778.6	764.3
37.5°	739.2	750.7	740.6	725.6	716.3	722.7	736.3	744.2	730.6
40°	704.1	714.8	704.8	691.9	680.4	687.6	699.8	708.4	696.2
42.5°	668.2	679.7	668.9	656.0	643.9	653.2	663.9	672.5	659.6
45°	630.9	643.1	633.1	618.0	606.6	615.9	628.1	635.2	621.6
47.5°	592.9	607.3	595.8	580.0	568.6	577.9	590.8	598.0	585.1
50°	554.9	567.1	558.5	542.0	530.6	539.2	553.5	559.2	547.1
52.5°	516.2	530.6	520.5	504.0	493.3	500.5	514.1	520.5	507.6
55°	476.8	488.3	478.9	465.3	453.1	461.7	474.6	478.9	468.9
57.5°	442.4	451.0	442.4	427.3	415.9	422.3	434.5	440.2	430.2
60°	402.9	410.8	402.2	387.9	377.9	383.6	393.6	400.8	390.8
62.5°	363.5	371.4	361.4	348.5	339.1	345.6	354.2	360.6	351.3
65°	324.8	332.0	321.2	309.7	300.4	306.9	313.3	320.5	311.9
67.5°	285.4	291.8	281.8	270.3	262.4	267.4	273.2	280.3	273.2
70°	246.6	251.7	243.1	232.3	225.1	229.4	234.5	240.2	233.7
72.5°	207.9	214.4	203.6	195.0	188.6	190.0	195.7	200.0	195.0
75°	167.8	172.1	164.2	157.0	151.3	152.7	154.9	161.3	155.6
77.5°	130.5	135.5	129.1	122.6	118.3	119.7	120.5	124.8	119.0
80°	95.4	99.7	95.4	90.3	87.5	88.2	88.2	91.1	85.3
82.5°	63.8	68.1	65.2	61.7	60.9	59.5	59.5	61.7	55.9
85°	36.6	41.6	39.4	36.6	35.8	35.1	35.1	36.6	32.3
87.5°	16.5	20.1	17.9	15.8	14.3	13.6	13.6	15.8	12.2
90°	2.2	5.0	4.3	2.9	2.9	2.9	3.6	4.3	1.4
92.5°	7.9	9.3	9.3	9.3	9.3	10.8	11.5	11.5	13.6
95°	36.6	13.6	15.8	17.2	17.9	17.9	17.2	15.1	44.5
97.5°	76.0	60.2	19.4	21.5	22.9	22.2	20.8	76.7	86.0
100°	123.3	139.8	21.5	24.4	25.8	25.1	23.7	157.0	136.2
102.5°	175.7	195.0	77.4	27.2	28.0	27.2	118.3	211.5	194.3
105°	234.5	250.9	230.2	45.9	35.1	55.9	269.6	267.4	253.8
107.5°	294.0	310.5	314.0	203.6	184.3	213.7	329.8	325.5	315.5
110°	354.9	367.1	375.0	378.6	309.0	383.6	388.6	382.9	374.3



TEST NUMBER: P199440

CATALOG NUMBER: S123-DIW-U1-1-40-0048-1D-UDD-1-NA-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	415.9	428.8	435.9	440.9	435.2	444.5	446.0	440.2	432.3
115°	474.6	486.1	493.3	501.2	499.0	502.6	505.5	497.6	490.4
117.5°	529.9	544.2	548.5	556.4	559.2	556.4	559.2	552.8	546.3
120°	587.9	599.4	602.3	609.4	613.0	608.7	612.3	606.6	599.4
122.5°	640.3	650.3	657.5	660.3	663.9	658.9	663.2	656.8	650.3
125°	689.7	700.5	711.2	710.5	714.1	708.4	713.4	705.5	699.8
127.5°	737.1	747.8	760.7	758.6	761.4	755.7	762.2	752.8	747.8
130°	782.9	795.9	807.3	804.5	807.3	802.3	808.0	799.4	794.4
132.5°	832.4	844.6	851.8	848.9	848.9	846.0	853.9	844.6	837.4
135°	879.7	887.6	894.8	890.5	890.5	887.6	896.2	887.6	879.0
137.5°	919.9	928.5	933.5	930.6	930.6	927.1	935.7	927.8	919.2
140°	958.6	966.5	970.8	967.2	967.2	964.3	972.9	966.5	957.2
142.5°	996.6	1003.8	1008.1	1002.3	1002.3	999.5	1010.2	1003.1	992.3
145°	1033.9	1038.9	1043.9	1035.3	1036.0	1031.7	1044.6	1037.5	1027.4
147.5°	1061.9	1071.2	1076.9	1066.9	1066.9	1063.3	1076.9	1069.7	1058.3
150°	1095.6	1099.1	1105.6	1097.0	1096.3	1093.4	1106.3	1098.4	1088.4
152.5°	1118.5	1127.1	1132.8	1123.5	1122.8	1119.2	1133.6	1124.9	1114.9
155°	1146.5	1150.0	1157.2	1148.6	1146.5	1145.0	1158.6	1147.9	1140.0
157.5°	1166.5	1170.8	1180.9	1173.0	1167.3	1169.4	1180.2	1168.0	1161.5
160°	1187.3	1188.8	1200.2	1192.3	1185.9	1188.8	1199.5	1184.5	1182.3
162.5°	1205.3	1206.0	1216.7	1207.4	1202.4	1203.1	1216.0	1201.0	1197.4
165°	1218.2	1216.7	1227.5	1219.6	1216.0	1216.0	1227.5	1213.9	1213.1
167.5°	1230.3	1229.6	1234.6	1229.6	1228.9	1225.3	1233.9	1224.6	1226.8
170°	1239.7	1236.8	1239.7	1232.5	1232.5	1228.9	1240.4	1232.5	1235.4
172.5°	1248.3	1242.5	1242.5	1232.5	1230.3	1229.6	1243.3	1239.0	1243.3
175°	1250.4	1245.4	1243.3	1232.5	1223.9	1230.3	1244.0	1241.1	1248.3
177.5°	1252.6	1244.7	1242.5	1229.6	1227.5	1228.2	1243.3	1241.8	1250.4
180°	1238.2	1238.2	1238.2	1238.2	1238.2	1238.2	1238.2	1238.2	1238.2

(END OF REPORT)