

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: P199444

Luminaire Tested: **S123-DIW-U1-LO-30-0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199444  
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-LO-30-0048-1D-UDD-1-NA-W  
Description: DEFINE 3-INCH DIRECT/INDIRECT WALL LED LUMINAIRE  
UPLIGHT LL1-3000K, NO LENS  
DOWNLIGHT LLO-3000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

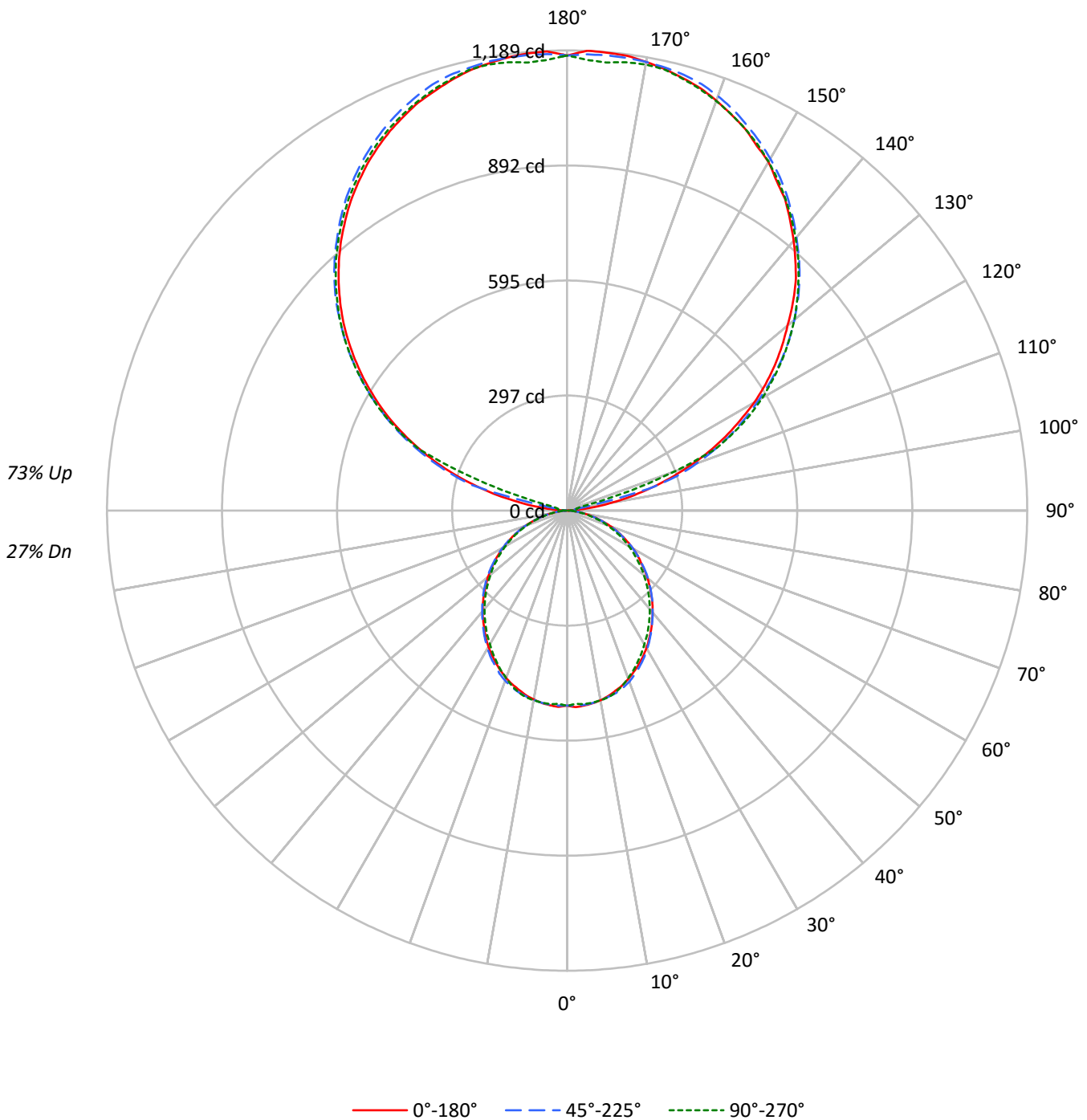
Lumens per Lamp: N/A  
Luminaire Lumens: 4812.4 lumens  
Efficiency: N/A  
Efficacy: 124.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.32  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4.08' x H: 0.38')  
CIE Type: Semi-Indirect

Input Watts (W): 38.8  
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	102	102	102	102	91	91	91	91	71	71	71	52	52	52	35	35	35	27
1	93	89	85	81	83	79	76	73	62	60	58	46	45	43	31	31	30	23
2	84	77	71	66	75	69	64	60	54	51	48	40	38	36	27	26	25	19
3	77	68	61	55	68	61	55	50	48	44	40	36	33	31	24	23	21	16
4	70	60	52	47	63	54	47	42	42	38	34	32	29	26	22	20	18	14
5	64	53	45	40	57	48	41	36	38	33	29	28	25	23	20	18	16	12
6	59	48	40	34	53	43	36	31	34	29	25	26	22	20	18	16	14	11
7	55	43	35	30	49	39	32	27	31	26	22	23	20	17	16	14	12	10
8	51	39	31	26	45	35	28	24	28	23	20	21	18	15	15	13	11	9
9	47	35	28	23	42	32	26	21	25	21	17	19	16	14	14	12	10	8
10	44	32	25	21	39	29	23	19	23	19	16	18	15	12	13	11	9	7

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

	0°	90°	180°
0°	5315	5315	5315
5°	5312	4694	5305
10°	5242	4215	5223
15°	5136	3784	5110
20°	5025	3347	4999
25°	4887	2953	4855
30°	4741	2602	4700
35°	4566	2302	4510
40°	4390	2023	4341
45°	4205	1766	4142
50°	4004	1524	3946
55°	3780	1294	3718
60°	3577	1081	3470
65°	3304	867	3173
70°	2962	662	2806
75°	2485	456	2303
80°	1857	273	1661
85°	1051	117	927



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.8	1.0
10°-20°	136.4	2.8
20°-30°	201.6	4.2
30°-40°	234.7	4.9
40°-50°	235.5	4.9
50°-60°	206.1	4.3
60°-70°	152.3	3.2
70°-80°	83.2	1.7
80°-90°	21.5	0.4
90°-100°	27.2	0.6
100°-110°	193.6	4.0
110°-120°	463.3	9.6
120°-130°	599.7	12.5
130°-140°	650.9	13.5
140°-150°	616.2	12.8
150°-160°	503.3	10.5
160°-170°	327.0	6.8
170°-180°	112.2	2.3
0°-30°	385.9	8.0
0°-40°	620.6	12.9
0°-60°	1062.3	22.1
0°-90°	1319.2	27.4
90°-120°	684.0	14.2
90°-150°	2550.8	53.0
90°-180°	3493.0	72.6
0°-180°	4812.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	504	504	504	504	504	
5°	506	504	502	503	505	48
15°	482	488	486	486	480	136
25°	438	444	431	442	435	202
35°	378	379	367	377	373	236
45°	308	309	296	306	303	237
55°	233	234	221	232	229	209
65°	158	157	147	153	152	157
75°	82	80	74	76	76	87
85°	18	19	18	17	16	21
90°	1	2	1	2	1	2
95°	35	15	17	16	42	46
105°	223	218	33	256	241	236
115°	451	468	474	480	466	444
125°	655	675	678	677	664	585
135°	835	850	846	851	835	642
145°	982	991	984	992	976	613
155°	1089	1099	1089	1100	1082	501
165°	1157	1166	1155	1166	1152	327
175°	1187	1181	1162	1181	1185	113
180°	1176	1176	1176	1176	1176	



TEST NUMBER: P199444

CATALOG NUMBER: S123-DIW-U1-LO-30-0048-1D-UDD-1-NA-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	504.1	504.1	504.1	504.1	504.1	504.1	504.1	504.1	504.1
2.5°	508.3	503.1	504.5	503.8	499.9	503.8	504.1	502.7	507.6
5°	505.9	501.3	504.1	503.1	501.7	503.1	503.4	500.6	505.2
7.5°	502.4	498.5	501.7	501.3	500.6	501.3	501.0	497.1	501.3
10°	497.5	494.0	498.2	498.9	497.8	498.5	496.8	492.9	495.7
12.5°	490.8	488.0	493.3	494.7	494.0	494.3	491.9	486.3	489.1
15°	482.1	480.7	487.7	488.7	485.9	487.7	485.9	478.9	479.6
17.5°	473.7	472.3	480.0	478.6	474.7	477.5	477.9	470.2	470.9
20°	462.8	462.1	470.2	466.0	461.1	464.6	467.7	460.0	460.4
22.5°	450.9	451.6	457.6	451.6	446.7	450.2	456.2	448.8	448.1
25°	438.0	440.1	444.0	437.0	431.4	435.2	441.5	437.3	435.2
27.5°	424.7	427.9	429.3	421.2	415.6	419.5	427.5	424.7	421.2
30°	410.0	413.9	413.5	405.1	398.8	403.0	411.4	411.1	406.5
32.5°	393.9	399.2	396.4	388.3	383.1	386.2	394.6	395.7	390.4
35°	377.5	383.1	378.9	371.2	366.6	369.8	376.8	379.9	372.9
37.5°	360.7	366.3	361.4	354.0	349.5	352.6	359.3	363.1	356.5
40°	343.5	348.8	343.9	337.6	332.0	335.5	341.4	345.6	339.7
42.5°	326.1	331.7	326.4	320.1	314.2	318.7	324.0	328.2	321.9
45°	307.9	313.8	308.9	301.6	296.0	300.5	306.5	310.0	303.3
47.5°	289.3	296.3	290.7	283.0	277.4	282.0	288.3	291.8	285.5
50°	270.8	276.7	272.5	264.5	258.9	263.1	270.1	272.9	266.9
52.5°	251.9	258.9	254.0	245.9	240.7	244.2	250.8	254.0	247.7
55°	232.6	238.2	233.7	227.0	221.1	225.3	231.6	233.7	228.8
57.5°	215.9	220.1	215.9	208.5	202.9	206.1	212.0	214.8	209.9
60°	196.6	200.5	196.3	189.3	184.4	187.2	192.1	195.6	190.7
62.5°	177.4	181.2	176.3	170.0	165.5	168.6	172.8	176.0	171.4
65°	158.5	162.0	156.7	151.1	146.6	149.7	152.9	156.4	152.2
67.5°	139.2	142.4	137.5	131.9	128.0	130.5	133.3	136.8	133.3
70°	120.3	122.8	118.6	113.3	109.9	111.9	114.4	117.2	114.0
72.5°	101.5	104.6	99.4	95.2	92.0	92.7	95.5	97.6	95.2
75°	81.9	84.0	80.1	76.6	73.8	74.5	75.6	78.7	75.9
77.5°	63.7	66.1	63.0	59.8	57.7	58.4	58.8	60.9	58.1
80°	46.5	48.6	46.5	44.1	42.7	43.0	43.0	44.4	41.6
82.5°	31.1	33.2	31.8	30.1	29.7	29.0	29.0	30.1	27.3
85°	17.8	20.3	19.2	17.8	17.5	17.1	17.1	17.8	15.7
87.5°	8.0	9.8	8.7	7.7	7.0	6.6	6.6	7.7	5.9
90°	1.0	2.4	2.1	1.4	1.4	1.4	1.7	2.1	0.7
92.5°	7.5	8.9	8.9	8.9	8.9	10.2	10.9	10.9	12.9
95°	34.7	12.9	15.0	16.3	17.0	17.0	16.3	14.3	42.2
97.5°	72.2	57.2	18.4	20.4	21.8	21.1	19.7	72.8	81.7
100°	117.1	132.8	20.4	23.1	24.5	23.8	22.5	149.1	129.4
102.5°	166.8	185.2	73.5	25.9	26.6	25.9	112.3	200.8	184.5
105°	222.6	238.3	218.5	43.6	33.4	53.1	256.0	254.0	241.0
107.5°	279.1	294.8	298.2	193.4	175.0	202.9	313.2	309.1	299.6
110°	337.0	348.6	356.1	359.5	293.4	364.2	369.0	363.6	355.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	394.9	407.1	413.9	418.7	413.3	422.1	423.5	418.0	410.5
115°	450.7	461.6	468.4	475.9	473.9	477.3	480.0	472.5	465.7
117.5°	503.1	516.8	520.8	528.3	531.0	528.3	531.0	524.9	518.8
120°	558.3	569.2	571.9	578.7	582.1	578.0	581.4	576.0	569.2
122.5°	608.0	617.5	624.3	627.0	630.4	625.7	629.8	623.6	617.5
125°	655.0	665.2	675.4	674.7	678.1	672.7	677.4	669.9	664.5
127.5°	699.9	710.1	722.4	720.3	723.0	717.6	723.7	714.9	710.1
130°	743.5	755.7	766.6	763.9	766.6	761.9	767.3	759.1	754.4
132.5°	790.4	802.0	808.8	806.1	806.1	803.4	810.9	802.0	795.2
135°	835.4	842.9	849.7	845.6	845.6	842.9	851.0	842.9	834.7
137.5°	873.5	881.7	886.4	883.7	883.7	880.3	888.5	881.0	872.8
140°	910.3	917.8	921.8	918.4	918.4	915.7	923.9	917.8	908.9
142.5°	946.4	953.2	957.2	951.8	951.8	949.1	959.3	952.5	942.3
145°	981.8	986.5	991.3	983.1	983.8	979.7	992.0	985.2	975.6
147.5°	1008.3	1017.2	1022.6	1013.1	1013.1	1009.7	1022.6	1015.8	1004.9
150°	1040.3	1043.7	1049.8	1041.7	1041.0	1038.3	1050.5	1043.0	1033.5
152.5°	1062.1	1070.3	1075.7	1066.9	1066.2	1062.8	1076.4	1068.2	1058.7
155°	1088.6	1092.1	1098.9	1090.7	1088.6	1087.3	1100.2	1090.0	1082.5
157.5°	1107.7	1111.8	1121.3	1113.8	1108.4	1110.4	1120.6	1109.1	1102.9
160°	1127.5	1128.8	1139.7	1132.2	1126.1	1128.8	1139.0	1124.7	1122.7
162.5°	1144.5	1145.2	1155.4	1146.5	1141.8	1142.4	1154.7	1140.4	1137.0
165°	1156.7	1155.4	1165.6	1158.1	1154.7	1154.7	1165.6	1152.6	1152.0
167.5°	1168.3	1167.6	1172.4	1167.6	1166.9	1163.5	1171.7	1162.9	1164.9
170°	1177.2	1174.4	1177.2	1170.3	1170.3	1166.9	1177.8	1170.3	1173.1
172.5°	1185.3	1179.9	1179.9	1170.3	1168.3	1167.6	1180.6	1176.5	1180.6
175°	1187.4	1182.6	1180.6	1170.3	1162.2	1168.3	1181.2	1178.5	1185.3
177.5°	1189.4	1181.9	1179.9	1167.6	1165.6	1166.3	1180.6	1179.2	1187.4
180°	1175.8	1175.8	1175.8	1175.8	1175.8	1175.8	1175.8	1175.8	1175.8

(END OF REPORT)