

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: P199428

Luminaire Tested: **S122-DIW-ULO-2-35-0048-1D-UDD-1-5-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199428  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P27883 P27883)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122-DIW-ULO-2-35-0048-1D-UDD-1-5-W  
Description: DEFINE 2-INCH DIRECT/INDIRECT WALL LED LUMINAIRE  
UPLIGHT LLO-3500K, SATIN WHITE DIFFUSER  
DOWNLIGHT LL2-3500K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

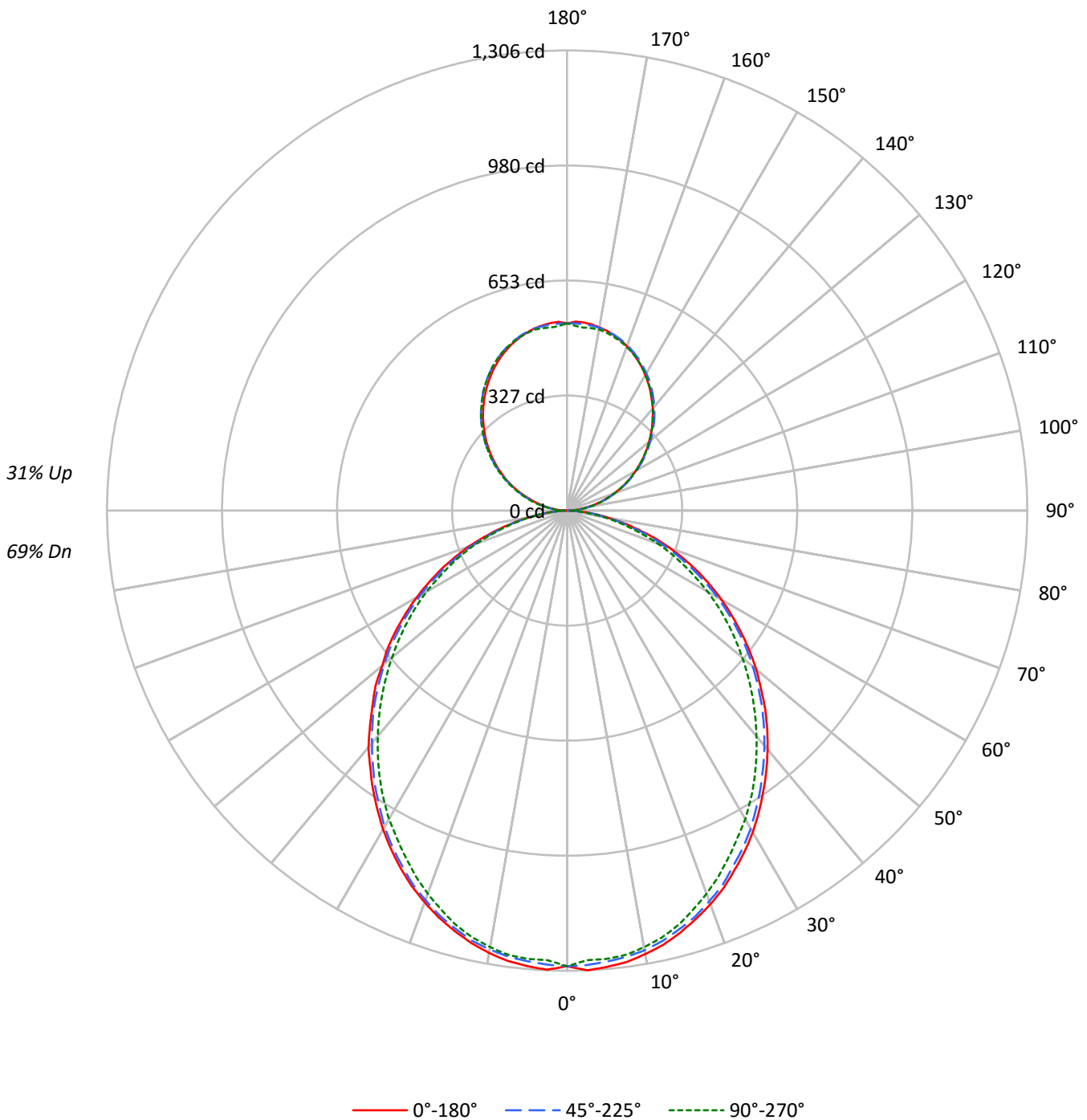
Lumens per Lamp: N/A  
Luminaire Lumens: 4827.3 lumens  
Efficiency: N/A  
Efficacy: 87.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.17 / 1.31  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4.08' x H: 0.38')  
CIE Type: Semi-Direct

Input Watts (W): 55.1  
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	112	112	112	112	105	105	105	105	94	94	94	83	83	83	74	74	74	69
1	102	98	94	90	96	92	89	86	83	80	77	73	71	70	65	64	62	58
2	93	85	79	74	88	81	75	70	72	68	64	65	61	58	57	55	52	49
3	85	75	68	61	80	71	64	59	64	58	54	57	53	49	51	48	45	41
4	78	67	58	52	73	63	56	50	57	51	46	51	46	42	45	42	39	35
5	71	59	51	45	67	56	49	43	51	45	40	46	41	37	41	37	34	31
6	66	53	45	39	62	51	43	38	46	40	35	41	36	32	37	33	30	27
7	61	48	40	34	58	46	39	33	42	35	31	38	33	29	34	30	26	24
8	57	44	36	31	53	42	35	30	38	32	28	35	29	26	31	27	24	21
9	53	40	33	27	50	39	31	26	35	29	25	32	27	23	29	25	21	19
10	50	37	30	25	47	35	29	24	32	26	22	30	24	21	27	23	19	18

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

	0°	90°	180°
0°	20450	20450	20450
5°	20475	16940	20443
10°	20198	14465	20150
15°	19816	12442	19736
20°	19365	10706	19267
25°	18826	9240	18726
30°	18280	8031	18124
35°	17615	6950	17452
40°	16965	5977	16811
45°	16286	5114	16000
50°	15525	4338	15192
55°	14675	3632	14431
60°	13809	2978	13454
65°	12757	2339	12319
70°	11447	1758	10893
75°	9557	1184	8920
80°	7127	688	6468
85°	4427	272	3718



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.9	2.5
10°-20°	345.1	7.1
20°-30°	509.0	10.5
30°-40°	593.6	12.3
40°-50°	594.8	12.3
50°-60°	520.3	10.8
60°-70°	382.8	7.9
70°-80°	207.5	4.3
80°-90°	53.2	1.1
90°-100°	37.3	0.8
100°-110°	108.1	2.2
110°-120°	181.8	3.8
120°-130°	237.0	4.9
130°-140°	264.3	5.5
140°-150°	258.4	5.4
150°-160°	217.4	4.5
160°-170°	144.5	3.0
170°-180°	50.3	1.0
0°-30°	976.0	20.2
0°-40°	1569.6	32.5
0°-60°	2684.7	55.6
0°-90°	3328.2	68.9
90°-120°	327.1	6.8
90°-150°	1086.9	22.5
90°-180°	1499.0	31.1
0°-180°	4827.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1293	1293	1293	1293	1293	
5°	1300	1285	1277	1284	1298	123
15°	1240	1230	1218	1228	1235	350
25°	1125	1114	1085	1111	1119	519
35°	971	958	927	951	962	608
45°	795	781	743	773	781	612
55°	602	591	555	580	592	539
65°	408	392	364	380	394	404
75°	210	200	182	187	196	224
85°	50	47	40	41	42	56
90°	2	5	7	6	1	6
95°	31	35	35	33	29	32
105°	101	106	104	101	95	107
115°	184	187	184	181	177	182
125°	264	269	265	263	258	236
135°	341	348	342	344	334	263
145°	412	419	414	414	405	258
155°	472	477	472	472	466	218
165°	515	516	511	513	511	145
175°	536	531	521	530	534	51
180°	531	531	531	531	531	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1293.0	1293.0	1293.0	1293.0	1293.0	1293.0	1293.0	1293.0	1293.0
2.5°	1306.0	1288.0	1291.0	1287.0	1277.0	1286.0	1290.0	1287.0	1304.0
5°	1300.0	1282.0	1285.0	1280.0	1277.0	1280.0	1284.0	1280.0	1298.0
7.5°	1292.0	1272.0	1278.0	1275.0	1272.0	1274.0	1277.0	1270.0	1289.0
10°	1278.0	1258.0	1267.0	1261.0	1258.0	1260.0	1265.0	1255.0	1275.0
12.5°	1262.0	1242.0	1251.0	1244.0	1241.0	1241.0	1250.0	1239.0	1257.0
15°	1240.0	1224.0	1230.0	1223.0	1218.0	1221.0	1228.0	1220.0	1235.0
17.5°	1215.0	1201.0	1208.0	1197.0	1188.0	1195.0	1205.0	1196.0	1211.0
20°	1189.0	1173.0	1180.0	1165.0	1157.0	1163.0	1176.0	1169.0	1183.0
22.5°	1160.0	1145.0	1151.0	1131.0	1123.0	1128.0	1147.0	1140.0	1153.0
25°	1125.0	1113.0	1114.0	1094.0	1085.0	1091.0	1111.0	1107.0	1119.0
27.5°	1091.0	1079.0	1080.0	1057.0	1047.0	1055.0	1075.0	1072.0	1083.0
30°	1054.0	1043.0	1042.0	1019.0	1011.0	1016.0	1036.0	1036.0	1045.0
32.5°	1013.0	1004.0	999.0	978.0	970.0	976.0	993.0	996.0	1003.0
35°	971.0	965.0	958.0	938.0	927.0	935.0	951.0	955.0	962.0
37.5°	929.0	922.0	914.0	894.0	882.0	892.0	906.0	913.0	918.0
40°	885.0	880.0	871.0	851.0	836.0	846.0	862.0	870.0	877.0
42.5°	840.0	837.0	826.0	805.0	790.0	801.0	818.0	825.0	828.0
45°	795.0	791.0	781.0	759.0	743.0	755.0	773.0	780.0	781.0
47.5°	745.0	746.0	734.0	712.0	696.0	708.0	724.0	734.0	738.0
50°	700.0	701.0	687.0	665.0	649.0	658.0	677.0	687.0	685.0
52.5°	652.0	655.0	640.0	618.0	602.0	611.0	630.0	641.0	642.0
55°	602.0	607.0	591.0	569.0	555.0	564.0	580.0	593.0	592.0
57.5°	554.0	558.0	542.0	522.0	508.0	516.0	530.0	547.0	543.0
60°	506.0	510.0	493.0	473.0	461.0	465.0	481.0	495.0	493.0
62.5°	457.0	461.0	443.0	425.0	411.0	417.0	431.0	448.0	443.0
65°	408.0	411.0	392.0	376.0	364.0	370.0	380.0	398.0	394.0
67.5°	359.0	361.0	344.0	329.0	319.0	322.0	331.0	346.0	344.0
70°	310.0	312.0	296.0	282.0	273.0	276.0	283.0	297.0	295.0
72.5°	260.0	263.0	247.0	234.0	225.0	228.0	233.0	246.0	243.0
75°	210.0	212.0	200.0	190.0	182.0	183.0	187.0	197.0	196.0
77.5°	164.0	169.0	156.0	147.0	141.0	142.0	147.0	152.0	150.0
80°	119.0	125.0	116.0	109.0	104.0	103.0	107.0	111.0	108.0
82.5°	84.0	85.0	79.0	74.0	69.0	69.0	72.0	75.0	72.0
85°	50.0	52.0	47.0	43.0	40.0	39.0	41.0	44.0	42.0
87.5°	24.0	25.0	20.0	18.0	15.0	14.0	15.0	17.0	17.0
90°	2.0	5.0	5.0	6.0	7.0	7.0	6.0	6.0	1.0
92.5°	19.3	21.4	22.5	21.8	21.4	20.3	20.3	19.3	17.1
95°	30.7	33.9	35.3	35.0	35.0	33.5	33.2	32.1	28.9
97.5°	45.3	48.9	50.0	50.3	50.0	48.2	47.1	46.0	42.5
100°	62.1	65.7	66.7	66.7	66.4	64.6	63.2	61.7	57.8
102.5°	80.7	84.2	85.3	84.6	84.6	82.1	80.7	79.6	75.3
105°	101.4	104.9	105.6	104.6	104.2	101.7	100.6	99.2	95.3
107.5°	121.3	124.9	124.6	124.2	122.8	121.0	120.3	118.1	113.1
110°	142.0	146.7	144.9	144.2	142.8	141.0	140.3	139.5	135.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	162.7	167.7	165.6	164.9	163.1	161.0	161.0	160.6	156.7
115°	183.8	188.8	186.7	185.2	183.8	181.7	181.3	181.7	177.4
117.5°	204.1	209.9	207.4	205.6	204.1	201.6	202.0	202.7	198.1
120°	224.5	230.9	228.1	225.9	224.8	222.0	222.3	223.8	218.4
122.5°	244.5	250.9	248.4	246.3	245.2	242.0	242.7	243.4	238.4
125°	264.5	270.9	268.7	266.2	265.2	263.0	263.4	263.4	258.4
127.5°	284.1	290.5	289.1	286.2	284.8	282.0	283.4	282.3	278.0
130°	303.4	309.4	308.7	305.5	304.4	302.7	303.7	300.5	297.3
132.5°	322.3	328.3	328.7	325.1	323.7	321.9	324.1	320.5	316.2
135°	341.2	346.5	348.0	344.1	342.3	340.8	343.7	338.0	334.4
137.5°	359.4	363.7	366.9	362.3	360.8	358.3	361.9	356.2	353.0
140°	378.0	381.5	384.4	380.8	379.0	376.9	379.7	374.0	370.8
142.5°	395.1	399.0	401.9	398.3	396.2	394.4	397.2	391.2	388.3
145°	412.2	415.4	419.0	415.8	413.6	411.9	414.4	408.3	405.4
147.5°	428.3	431.1	435.4	431.8	429.7	428.3	430.1	424.0	421.5
150°	444.0	445.4	449.7	447.6	444.7	443.3	444.7	439.3	437.2
152.5°	458.6	459.7	463.6	461.1	459.7	457.2	459.0	453.6	452.2
155°	472.2	472.5	477.2	474.3	472.5	470.8	472.2	467.9	466.1
157.5°	485.0	485.0	488.2	486.8	484.0	483.2	484.3	479.7	479.3
160°	496.1	495.4	499.3	496.8	494.3	493.6	495.4	491.1	490.7
162.5°	506.4	505.0	508.6	505.4	503.2	502.5	505.0	501.1	501.4
165°	515.0	513.2	516.1	512.9	510.7	510.4	513.2	509.3	510.7
167.5°	522.5	519.6	522.1	518.9	517.1	516.8	520.0	516.4	518.6
170°	528.2	524.6	526.8	522.5	521.8	521.1	525.0	521.8	525.4
172.5°	532.9	528.9	529.6	525.0	522.5	523.9	528.2	526.4	530.4
175°	535.7	531.4	530.7	525.7	521.4	524.6	530.0	529.6	534.3
177.5°	536.8	532.9	531.8	526.1	524.6	525.4	531.4	531.8	536.1
180°	531.1	531.1	531.1	531.1	531.1	531.1	531.1	531.1	531.1

(END OF REPORT)