

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: P199445

Luminaire Tested: **S123-DIP-U1-LO-35-X-X0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199445  
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-DIP-U1-LO-35-X-X0048-1D-UDD-1-NA-W  
Description: DEFINE 3-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE  
UPLIGHT LL1-3500K, NO LENS  
DOWNLIGHT LLO-3500K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4909.5 lumens  
Efficiency: N/A  
Efficacy: 126.5 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

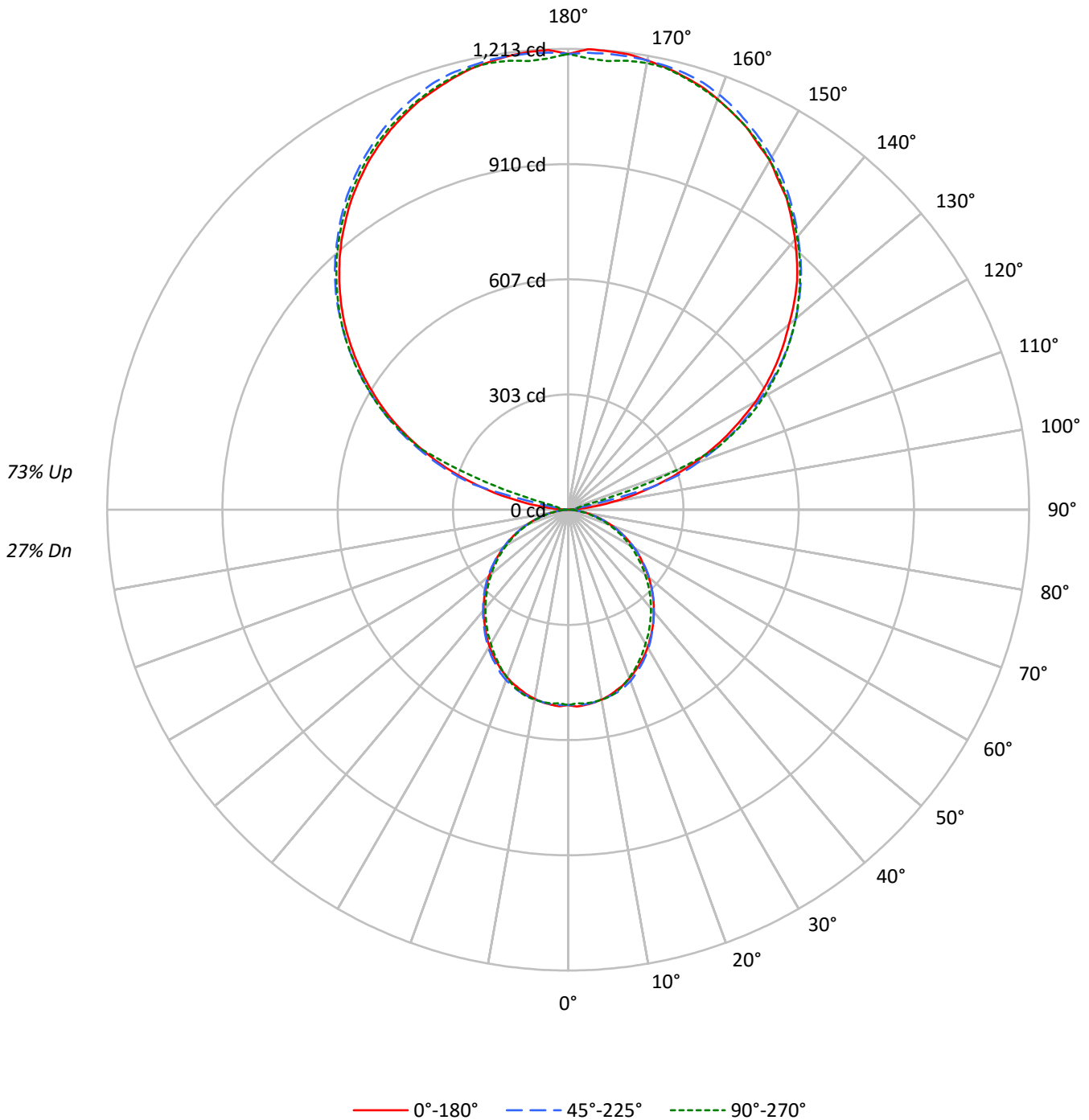
Input Watts (W): 38.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	5423	5423	5423
5°	5419	4789	5412
10°	5347	4301	5328
15°	5240	3860	5213
20°	5127	3414	5100
25°	4985	3013	4953
30°	4837	2655	4795
35°	4658	2348	4602
40°	4479	2064	4428
45°	4290	1801	4226
50°	4084	1554	4026
55°	3857	1320	3793
60°	3650	1102	3539
65°	3371	885	3237
70°	3023	675	2863
75°	2533	465	2348
80°	1897	278	1697
85°	1074	119	950



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.8	1.0
10°-20°	139.2	2.8
20°-30°	205.7	4.2
30°-40°	239.4	4.9
40°-50°	240.3	4.9
50°-60°	210.3	4.3
60°-70°	155.3	3.2
70°-80°	84.8	1.7
80°-90°	21.9	0.4
90°-100°	27.7	0.6
100°-110°	197.5	4.0
110°-120°	472.6	9.6
120°-130°	611.8	12.5
130°-140°	664.0	13.5
140°-150°	628.6	12.8
150°-160°	513.4	10.5
160°-170°	333.6	6.8
170°-180°	114.5	2.3
0°-30°	393.7	8.0
0°-40°	633.1	12.9
0°-60°	1083.7	22.1
0°-90°	1345.8	27.4
90°-120°	697.8	14.2
90°-150°	2602.2	53.0
90°-180°	3564.0	72.6
0°-180°	4909.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	514	514	514	514	514	
5°	516	514	512	514	515	49
15°	492	498	496	496	489	139
25°	447	453	440	450	444	206
35°	385	386	374	384	380	241
45°	314	315	302	313	309	242
55°	237	238	226	236	233	213
65°	162	160	150	156	155	160
75°	84	82	75	77	77	89
85°	18	20	18	18	16	21
90°	1	2	1	2	1	2
95°	35	15	17	17	43	47
105°	227	223	34	261	246	241
115°	460	478	483	490	475	453
125°	668	689	692	691	678	596
135°	852	867	863	868	852	655
145°	1002	1011	1004	1012	995	625
155°	1111	1121	1111	1122	1104	511
165°	1180	1189	1178	1189	1175	333
175°	1211	1204	1186	1205	1209	115
180°	1200	1200	1200	1200	1200	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	514.3	514.3	514.3	514.3	514.3	514.3	514.3	514.3	514.3
2.5°	518.6	513.2	514.6	513.9	510.0	513.9	514.3	512.9	517.9
5°	516.1	511.4	514.3	513.2	511.8	513.2	513.6	510.7	515.4
7.5°	512.5	508.6	511.8	511.4	510.7	511.4	511.1	507.2	511.4
10°	507.5	503.9	508.2	508.9	507.9	508.6	506.8	502.9	505.7
12.5°	500.7	497.9	503.2	504.7	503.9	504.3	501.8	496.1	498.9
15°	491.8	490.4	497.5	498.6	495.7	497.5	495.7	488.6	489.3
17.5°	483.2	481.8	489.7	488.2	484.3	487.2	487.5	479.7	480.4
20°	472.2	471.5	479.7	475.4	470.4	474.0	477.2	469.3	469.7
22.5°	460.0	460.8	466.8	460.8	455.8	459.3	465.4	457.9	457.2
25°	446.8	449.0	452.9	445.8	440.1	444.0	450.4	446.1	444.0
27.5°	433.3	436.5	437.9	429.7	424.0	427.9	436.1	433.3	429.7
30°	418.3	422.2	421.9	413.3	406.9	411.1	419.7	419.4	414.7
32.5°	401.9	407.2	404.4	396.2	390.8	394.0	402.6	403.7	398.3
35°	385.1	390.8	386.5	378.7	374.0	377.2	384.4	387.6	380.5
37.5°	368.0	373.7	368.7	361.2	356.5	359.8	366.5	370.5	363.7
40°	350.5	355.8	350.8	344.4	338.7	342.3	348.3	352.6	346.5
42.5°	332.6	338.3	333.0	326.6	320.5	325.1	330.5	334.8	328.3
45°	314.1	320.1	315.1	307.6	301.9	306.6	312.6	316.2	309.4
47.5°	295.2	302.3	296.6	288.7	283.0	287.7	294.1	297.7	291.2
50°	276.2	282.3	278.0	269.8	264.1	268.4	275.5	278.4	272.3
52.5°	257.0	264.1	259.1	250.9	245.5	249.1	255.9	259.1	252.7
55°	237.3	243.0	238.4	231.6	225.6	229.8	236.3	238.4	233.4
57.5°	220.2	224.5	220.2	212.7	207.0	210.2	216.3	219.1	214.1
60°	200.6	204.5	200.2	193.1	188.1	190.9	195.9	199.5	194.5
62.5°	180.9	184.9	179.9	173.5	168.8	172.0	176.3	179.5	174.9
65°	161.7	165.2	159.9	154.2	149.5	152.8	156.0	159.5	155.3
67.5°	142.0	145.3	140.3	134.6	130.6	133.1	136.0	139.5	136.0
70°	122.8	125.3	121.0	115.6	112.1	114.2	116.7	119.6	116.3
72.5°	103.5	106.7	101.4	97.1	93.9	94.6	97.4	99.6	97.1
75°	83.5	85.7	81.7	78.2	75.3	76.0	77.1	80.3	77.4
77.5°	65.0	67.5	64.2	61.0	58.9	59.6	60.0	62.1	59.2
80°	47.5	49.6	47.5	45.0	43.5	43.9	43.9	45.3	42.5
82.5°	31.8	33.9	32.5	30.7	30.3	29.6	29.6	30.7	27.8
85°	18.2	20.7	19.6	18.2	17.8	17.5	17.5	18.2	16.1
87.5°	8.2	10.0	8.9	7.9	7.1	6.8	6.8	7.9	6.1
90°	1.1	2.5	2.1	1.4	1.4	1.4	1.8	2.1	0.7
92.5°	7.6	9.0	9.0	9.0	9.0	10.4	11.1	11.1	13.2
95°	35.4	13.2	15.3	16.7	17.4	17.4	16.7	14.6	43.1
97.5°	73.6	58.3	18.8	20.8	22.2	21.5	20.1	74.3	83.3
100°	119.5	135.4	20.8	23.6	25.0	24.3	22.9	152.1	132.0
102.5°	170.2	188.9	75.0	26.4	27.1	26.4	114.6	204.9	188.2
105°	227.1	243.1	223.0	44.5	34.0	54.2	261.2	259.1	245.9
107.5°	284.8	300.7	304.2	197.3	178.5	207.0	319.5	315.3	305.6
110°	343.8	355.6	363.3	366.7	299.4	371.6	376.5	370.9	362.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	402.8	415.4	422.3	427.2	421.6	430.6	432.0	426.5	418.8
115°	459.8	470.9	477.9	485.5	483.4	486.9	489.7	482.0	475.1
117.5°	513.3	527.2	531.3	539.0	541.8	539.0	541.8	535.5	529.3
120°	569.5	580.7	583.4	590.4	593.9	589.7	593.2	587.6	580.7
122.5°	620.2	630.0	636.9	639.7	643.2	638.3	642.5	636.2	630.0
125°	668.2	678.6	689.0	688.3	691.8	686.2	691.1	683.5	677.9
127.5°	714.0	724.4	736.9	734.9	737.6	732.1	738.3	729.3	724.4
130°	758.5	771.0	782.1	779.3	782.1	777.2	782.8	774.4	769.6
132.5°	806.4	818.2	825.1	822.4	822.4	819.6	827.2	818.2	811.3
135°	852.2	859.9	866.8	862.7	862.7	859.9	868.2	859.9	851.5
137.5°	891.1	899.5	904.3	901.5	901.5	898.1	906.4	898.8	890.4
140°	928.6	936.3	940.4	937.0	937.0	934.2	942.5	936.3	927.2
142.5°	965.4	972.4	976.6	971.0	971.0	968.2	978.6	971.7	961.3
145°	1001.6	1006.4	1011.3	1003.0	1003.6	999.5	1012.0	1005.0	995.3
147.5°	1028.7	1037.7	1043.2	1033.5	1033.5	1030.0	1043.2	1036.3	1025.2
150°	1061.3	1064.8	1071.0	1062.7	1062.0	1059.2	1071.7	1064.1	1054.4
152.5°	1083.5	1091.9	1097.4	1088.4	1087.7	1084.2	1098.1	1089.8	1080.0
155°	1110.6	1114.1	1121.0	1112.7	1110.6	1109.2	1122.4	1112.0	1104.4
157.5°	1130.1	1134.2	1143.9	1136.3	1130.8	1132.8	1143.3	1131.4	1125.2
160°	1150.2	1151.6	1162.7	1155.1	1148.8	1151.6	1162.0	1147.4	1145.3
162.5°	1167.6	1168.3	1178.7	1169.6	1164.8	1165.5	1178.0	1163.4	1159.9
165°	1180.1	1178.7	1189.1	1181.5	1178.0	1178.0	1189.1	1175.9	1175.2
167.5°	1191.9	1191.2	1196.0	1191.2	1190.5	1187.0	1195.3	1186.3	1188.4
170°	1200.9	1198.1	1200.9	1194.0	1194.0	1190.5	1201.6	1194.0	1196.7
172.5°	1209.2	1203.7	1203.7	1194.0	1191.9	1191.2	1204.4	1200.2	1204.4
175°	1211.3	1206.5	1204.4	1194.0	1185.6	1191.9	1205.1	1202.3	1209.2
177.5°	1213.4	1205.8	1203.7	1191.2	1189.1	1189.8	1204.4	1203.0	1211.3
180°	1199.5	1199.5	1199.5	1199.5	1199.5	1199.5	1199.5	1199.5	1199.5

(END OF REPORT)