

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: P243540

Luminaire Tested: **S124DR-H1020D840-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243540
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-55)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DR-H1020D840-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3911.3 lumens
Efficiency: N/A
Efficacy: 124.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

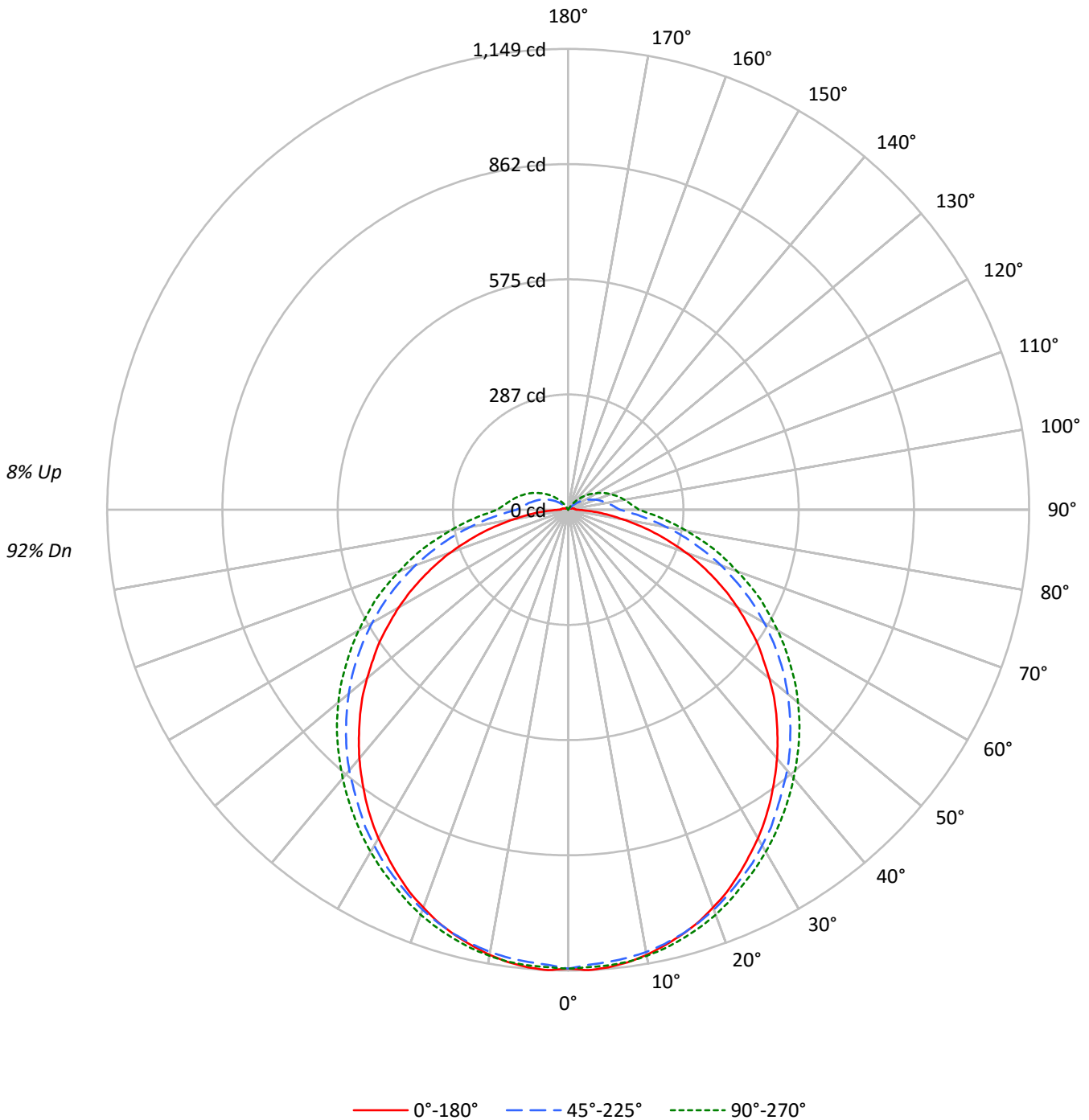
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P243540

CATALOG NUMBER: S124DR-H1020D840-X4F0-XX-UDD-D-W

Luminous Intensity Polar Plot





TEST NUMBER: P243540

CATALOG NUMBER: S124DR-H1020D840-X4F0-XX-UDD-D-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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	46	55	49	45	43
5	72	59	50	43	70	58	49	42	55	47	41	52	45	40	49	43	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10171	10171	10171
5°	10202	9925	9945
10°	10136	9758	9738
15°	10035	9560	9504
20°	9907	9348	9268
25°	9753	9105	8994
30°	9591	8878	8760
35°	9412	8626	8517
40°	9230	8411	8290
45°	9039	8178	8074
50°	8821	7942	7847
55°	8629	7692	7588
60°	8357	7414	7334
65°	8044	7102	7079
70°	7669	6746	6712
75°	7074	6311	6446
80°	6269	5892	6070
85°	5673	5551	5853



TEST NUMBER: P243540

CATALOG NUMBER: S124DR-H1020D840-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.3	2.8
10°-20°	310.6	7.9
20°-30°	470.2	12.0
30°-40°	569.3	14.6
40°-50°	602.2	15.4
50°-60°	567.3	14.5
60°-70°	471.4	12.1
70°-80°	331.3	8.5
80°-90°	186.6	4.8
90°-100°	110.8	2.8
100°-110°	82.0	2.1
110°-120°	54.7	1.4
120°-130°	30.9	0.8
130°-140°	13.2	0.3
140°-150°	2.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	889.1	22.7
0°-40°	1458.5	37.3
0°-60°	2627.9	67.2
0°-90°	3617.3	92.5
90°-120°	247.4	6.3
90°-150°	294.0	7.5
90°-180°	294.0	7.5
0°-180°	3911.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1144	1144	1144	1144	1144	
5°	1146	1141	1132	1142	1141	109
15°	1097	1099	1096	1108	1106	309
25°	1004	1013	1017	1031	1031	463
35°	880	895	908	928	931	551
45°	734	758	783	806	814	567
55°	574	604	641	669	676	511
65°	400	440	485	516	529	396
75°	222	270	324	360	374	236
85°	69	123	181	220	232	71
90°	21	72	129	164	176	14
95°	17	58	112	147	157	13
105°	12	38	85	117	128	13
115°	8	20	60	88	98	8
125°	5	4	35	60	68	5
135°	2	2	11	32	39	2
145°	1	0	0	7	12	1
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P243540

CATALOG NUMBER: S124DR-H1020D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1144.2	1144.2	1144.2	1144.2	1144.2
2.5°	1149.1	1145.5	1135.7	1143.0	1141.8
5°	1145.5	1140.6	1132.1	1141.8	1140.6
7.5°	1138.2	1134.5	1127.2	1138.2	1136.9
10°	1127.2	1124.8	1119.9	1129.6	1129.6
12.5°	1112.6	1112.6	1109.0	1119.9	1119.9
15°	1096.8	1099.2	1095.6	1107.8	1106.5
17.5°	1078.6	1081.0	1079.8	1091.9	1091.9
20°	1055.5	1059.1	1061.5	1074.9	1074.9
22.5°	1032.4	1037.2	1039.7	1054.3	1054.3
25°	1004.4	1012.9	1016.6	1031.1	1031.1
27.5°	975.2	986.2	993.5	1006.8	1009.3
30°	946.0	958.2	966.7	981.3	984.9
32.5°	914.4	926.6	940.0	954.5	959.4
35°	880.4	895.0	908.3	927.8	931.4
37.5°	845.1	862.1	877.9	898.6	903.5
40°	809.8	830.5	848.8	868.2	874.3
42.5°	772.1	792.8	817.1	837.8	843.9
45°	734.5	757.6	783.1	806.2	813.5
47.5°	696.8	721.1	749.0	773.4	781.9
50°	654.2	680.9	713.8	738.1	747.8
52.5°	612.9	642.0	678.5	702.8	713.8
55°	573.9	604.3	640.8	668.8	676.1
57.5°	529.0	563.0	603.1	633.5	640.8
60°	487.6	521.7	564.2	594.6	603.1
62.5°	445.0	481.5	525.3	555.7	564.2
65°	400.1	440.2	485.2	515.6	529.0
67.5°	356.3	396.4	443.8	477.9	488.8
70°	312.5	353.8	404.9	439.0	447.5
72.5°	266.3	311.3	363.6	398.8	411.0
75°	222.5	269.9	323.5	359.9	374.5
77.5°	180.0	229.8	285.8	323.5	333.2
80°	137.4	192.1	248.1	285.8	297.9
82.5°	103.4	154.4	212.8	252.9	262.7
85°	69.3	122.8	181.2	220.1	232.3
87.5°	41.3	96.1	152.0	188.5	200.6
90°	20.7	71.7	128.9	164.2	176.3
92.5°	18.2	64.4	119.2	154.4	166.6
95°	17.0	58.4	111.9	147.1	156.9
97.5°	15.8	53.5	104.6	138.6	149.6
100°	14.6	47.4	98.5	131.3	142.3
102.5°	13.4	42.6	91.2	124.0	135.0
105°	12.2	37.7	85.1	116.7	127.7
107.5°	10.9	32.8	79.0	109.4	120.4
110°	9.7	28.0	73.0	102.1	113.1



TEST NUMBER: P243540

CATALOG NUMBER: S124DR-H1020D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	8.5	24.3	65.7	94.8	105.8
115°	8.5	19.5	59.6	87.6	98.5
117.5°	7.3	14.6	53.5	80.3	90.0
120°	7.3	10.9	47.4	73.0	82.7
122.5°	6.1	7.3	41.3	66.9	75.4
125°	4.9	3.6	35.3	59.6	68.1
127.5°	4.9	3.6	29.2	52.3	60.8
130°	3.6	3.6	23.1	45.0	53.5
132.5°	3.6	2.4	17.0	38.9	46.2
135°	2.4	2.4	10.9	31.6	38.9
137.5°	2.4	1.2	7.3	25.5	32.8
140°	2.4	1.2	2.4	19.5	25.5
142.5°	1.2	1.2	0.0	13.4	18.2
145°	1.2	0.0	0.0	7.3	12.2
147.5°	1.2	0.0	0.0	1.2	6.1
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)