

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: P242680

Luminaire Tested: **S124DR-S1020D840-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242680
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DR-S1020D840-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3920.9 lumens
Efficiency: N/A
Efficacy: 112.7 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

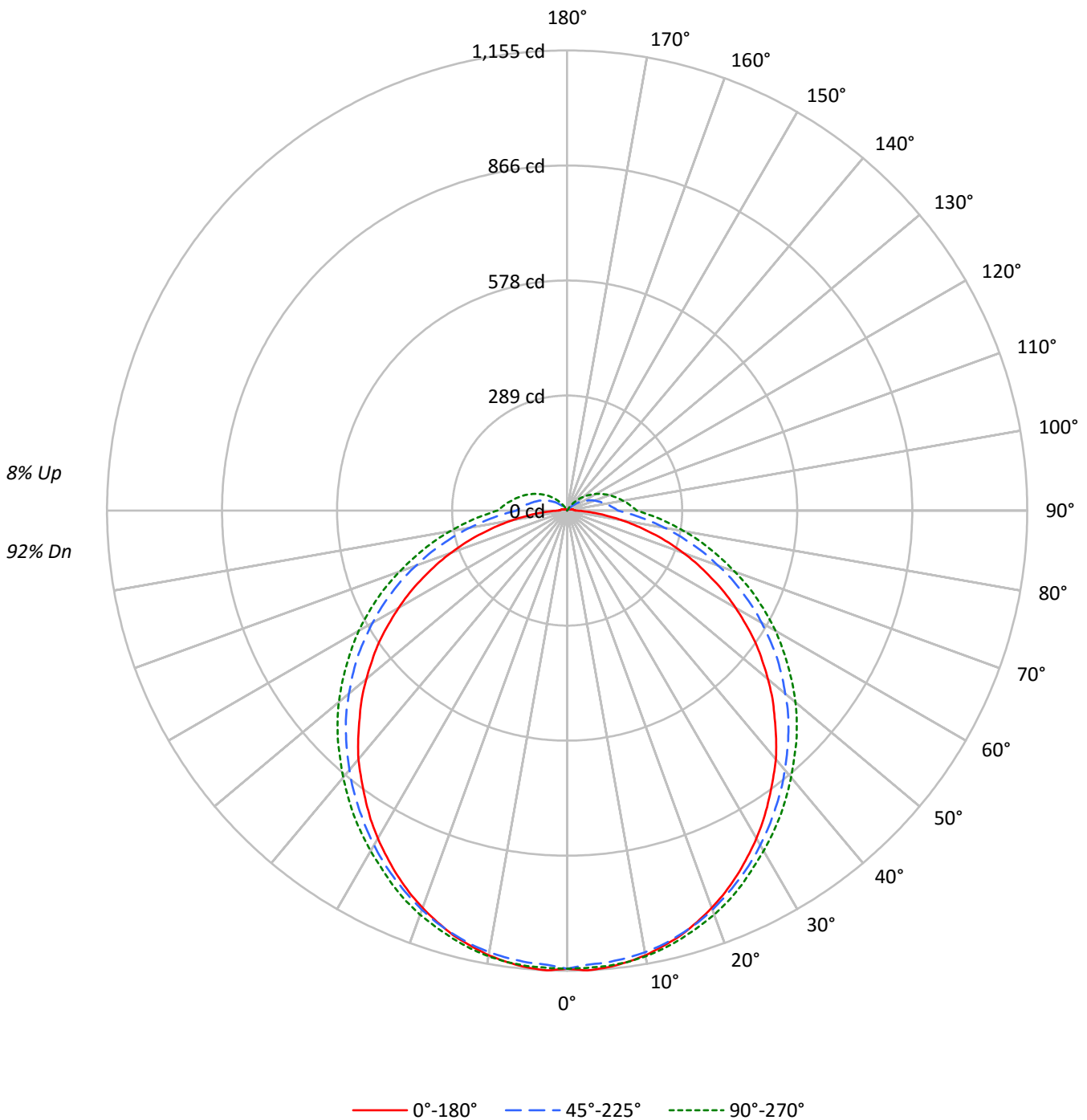
Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	87	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	47	55	49	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	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	38	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10222	10222	10222
5°	10254	9980	10006
10°	10191	9807	9792
15°	10099	9608	9546
20°	9960	9390	9305
25°	9805	9147	9043
30°	9635	8905	8775
35°	9444	8659	8538
40°	9292	8423	8291
45°	9065	8204	8077
50°	8873	7952	7852
55°	8674	7714	7588
60°	8366	7412	7345
65°	8026	7087	7048
70°	7617	6716	6703
75°	7042	6305	6385
80°	6406	5904	6062
85°	5591	5524	5840



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.0	2.8
10°-20°	312.2	8.0
20°-30°	472.1	12.0
30°-40°	571.1	14.6
40°-50°	603.8	15.4
50°-60°	568.2	14.5
60°-70°	471.5	12.0
70°-80°	330.9	8.4
80°-90°	186.5	4.8
90°-100°	111.0	2.8
100°-110°	82.2	2.1
110°-120°	55.2	1.4
120°-130°	31.1	0.8
130°-140°	13.4	0.3
140°-150°	2.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	893.2	22.8
0°-40°	1464.3	37.3
0°-60°	2636.3	67.2
0°-90°	3625.3	92.5
90°-120°	248.5	6.3
90°-150°	295.7	7.5
90°-180°	296.0	7.5
0°-180°	3920.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1150	1150	1150	1150	1150	
5°	1151	1148	1138	1149	1148	109
15°	1104	1105	1101	1113	1111	311
25°	1010	1017	1021	1035	1037	465
35°	883	899	912	930	934	553
45°	737	761	786	808	814	569
55°	577	604	643	668	676	514
65°	399	440	484	516	527	396
75°	222	269	323	359	371	235
85°	68	122	180	219	232	71
90°	21	72	128	165	175	14
95°	17	59	112	147	158	13
105°	12	37	85	117	128	13
115°	8	19	60	89	98	8
125°	5	4	36	60	68	5
135°	3	3	12	32	40	2
145°	1	0	0	8	13	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



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1150.0	1150.0	1150.0	1150.0	1150.0
2.5°	1155.2	1151.3	1141.0	1150.0	1148.7
5°	1151.3	1147.5	1138.4	1148.7	1147.5
7.5°	1143.6	1141.0	1133.3	1144.9	1143.6
10°	1133.3	1132.0	1125.6	1137.1	1135.9
12.5°	1119.1	1119.1	1115.3	1125.6	1125.6
15°	1103.7	1105.0	1101.1	1112.7	1111.4
17.5°	1083.1	1086.9	1085.6	1097.2	1095.9
20°	1061.2	1065.0	1066.3	1079.2	1079.2
22.5°	1036.7	1041.9	1044.4	1057.3	1059.9
25°	1009.7	1017.4	1021.2	1035.4	1036.7
27.5°	980.0	991.6	996.8	1009.7	1010.9
30°	950.4	960.7	969.7	983.9	986.5
32.5°	918.2	931.1	941.4	958.1	960.7
35°	883.4	898.9	911.8	929.8	933.7
37.5°	848.7	866.7	882.2	900.2	904.1
40°	815.2	831.9	850.0	869.3	874.4
42.5°	776.6	795.9	817.8	839.7	843.5
45°	736.6	761.1	785.6	807.5	813.9
47.5°	699.3	723.8	752.1	774.0	781.7
50°	658.1	686.4	714.7	740.5	748.2
52.5°	616.9	645.2	678.7	704.4	712.2
55°	576.9	604.0	642.6	668.4	676.1
57.5°	531.9	565.4	602.7	633.6	640.0
60°	488.1	521.6	564.1	593.7	604.0
62.5°	445.6	482.9	525.4	555.1	565.4
65°	399.2	440.4	484.2	516.4	526.7
67.5°	355.4	399.2	445.6	477.8	488.1
70°	310.4	354.2	403.1	437.9	446.9
72.5°	266.6	311.7	364.5	397.9	408.2
75°	221.5	269.2	323.2	359.3	370.9
77.5°	179.0	229.2	285.9	322.0	334.8
80°	140.4	191.9	248.6	287.2	297.5
82.5°	101.7	155.8	212.5	252.4	264.0
85°	68.3	122.3	180.3	218.9	231.8
87.5°	42.5	95.3	152.0	189.3	200.9
90°	20.6	72.1	127.5	164.8	175.1
92.5°	19.3	64.4	119.8	155.8	166.1
95°	16.7	59.2	112.0	146.8	158.4
97.5°	15.5	52.8	105.6	139.1	150.7
100°	14.2	47.6	97.9	132.6	141.7
102.5°	14.2	42.5	91.4	124.9	135.2
105°	11.6	37.3	85.0	117.2	127.5
107.5°	11.6	33.5	78.6	110.8	119.8
110°	10.3	28.3	73.4	103.0	113.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	9.0	24.5	67.0	95.3	105.6
115°	7.7	19.3	60.5	88.9	97.9
117.5°	7.7	15.5	54.1	81.1	91.4
120°	6.4	10.3	47.6	73.4	83.7
122.5°	6.4	6.4	41.2	67.0	76.0
125°	5.2	3.9	36.1	60.5	68.3
127.5°	5.2	3.9	29.6	52.8	61.8
130°	3.9	2.6	23.2	46.4	54.1
132.5°	3.9	2.6	18.0	39.9	47.6
135°	2.6	2.6	11.6	32.2	39.9
137.5°	2.6	1.3	6.4	25.8	32.2
140°	2.6	1.3	2.6	19.3	25.8
142.5°	1.3	1.3	0.0	14.2	19.3
145°	1.3	0.0	0.0	7.7	12.9
147.5°	1.3	0.0	0.0	1.3	6.4
150°	1.3	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)