

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P998444

Luminaire Tested: S124DR-B1020DB40-4F0-XX-W2A-D

Issue Date: 5/2/2025

Test Information

Test Method: LM-79-2019
Report Number: P998444
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)
Test Lab: INNOVATION CENTER
Issue Date: 5/2/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DR-B1020DB40-4F0-XX-W2A-D
Description: Define 4 Direct Recessed with 4000K BioUP LEDs {m-DER=0.865} {m-EER=0.951}
Light Source: -
Ballast/Driver: -

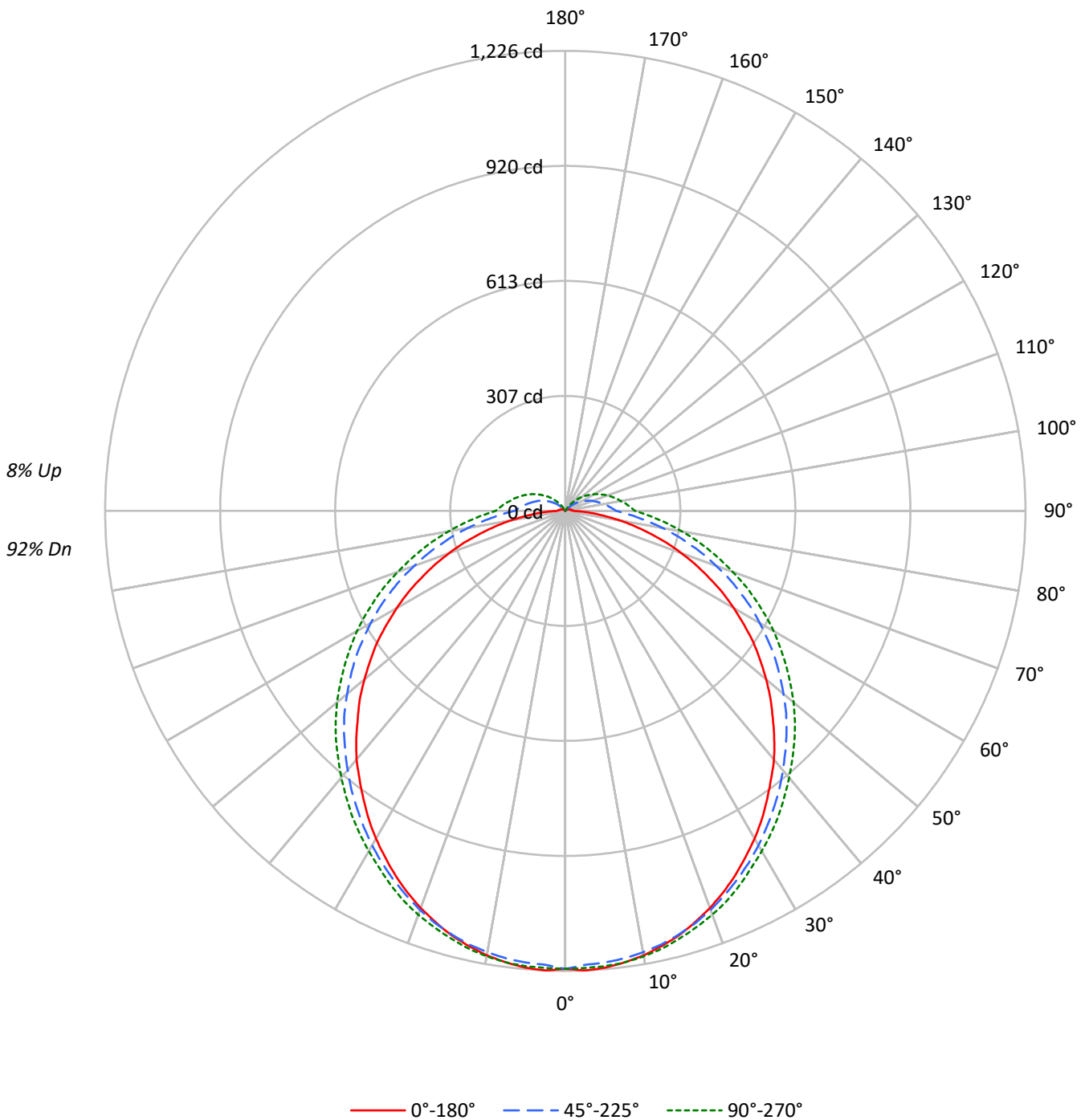
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4161.0 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V):
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: 24 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				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	50	30	10	0
RCR																					
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	77	77	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	63	63	63	60
3	87	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	53	53	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	49	45	45	45	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	39	39	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	39	34	34	34	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	30	30	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	27	27	27	25
9	54	40	32	26	52	39	31	26	38	30	25	36	29	25	34	29	24	24	24	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9952	9952	9952
5°	10001	9889	9968
10°	9959	9891	9981
15°	9887	9865	9957
20°	9772	9820	9939
25°	9641	9751	9899
30°	9497	9690	9858
35°	9333	9632	9863
40°	9209	9602	9878
45°	9015	9614	9960
50°	8860	9622	10073
55°	8705	9696	10201
60°	8448	9763	10454
65°	8175	9916	10786
70°	7854	10200	11306
75°	7407	10807	12401
80°	6997	12388	14825
85°	6774	17898	23016

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 87.5°
 Luminance: 39857 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.6	2.8
10°-20°	331.3	8.0
20°-30°	501.0	12.0
30°-40°	606.1	14.6
40°-50°	640.7	15.4
50°-60°	603.0	14.5
60°-70°	500.4	12.0
70°-80°	351.1	8.4
80°-90°	198.0	4.8
90°-100°	117.9	2.8
100°-110°	87.3	2.1
110°-120°	58.6	1.4
120°-130°	33.0	0.8
130°-140°	14.3	0.3
140°-150°	2.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	947.9	22.8
0°-40°	1554.0	37.3
0°-60°	2797.7	67.2
0°-90°	3847.2	92.5
90°-120°	263.7	6.3
90°-150°	313.8	7.5
90°-180°	314.0	7.5
0°-180°	4161.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1220	1220	1220	1220	1220	
5°	1222	1218	1208	1219	1218	116
15°	1171	1173	1168	1181	1179	330
25°	1072	1080	1084	1099	1100	494
35°	938	954	968	987	991	587
45°	782	808	834	857	864	604
55°	612	641	682	709	718	546
65°	424	467	514	548	559	420
75°	235	286	343	381	394	250
85°	72	130	191	232	246	75
90°	22	76	135	175	186	15
95°	18	63	119	156	168	14
105°	12	40	90	124	135	14
115°	8	20	64	94	104	9
125°	6	4	38	64	72	5
135°	3	3	12	34	42	3
145°	1	0	0	8	14	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°	1220.4	1220.4	1220.4	1220.4	1220.4
2.5°	1225.9	1221.8	1210.9	1220.4	1219.1
5°	1221.8	1217.7	1208.1	1219.1	1217.7
7.5°	1213.6	1210.9	1202.7	1215.0	1213.6
10°	1202.7	1201.3	1194.5	1206.8	1205.4
12.5°	1187.6	1187.6	1183.5	1194.5	1194.5
15°	1171.2	1172.6	1168.5	1180.8	1179.4
17.5°	1149.4	1153.5	1152.1	1164.4	1163.0
20°	1126.1	1130.2	1131.6	1145.3	1145.3
22.5°	1100.2	1105.6	1108.4	1122.0	1124.8
25°	1071.5	1079.7	1083.8	1098.8	1100.2
27.5°	1040.0	1052.3	1057.8	1071.5	1072.8
30°	1008.6	1019.5	1029.1	1044.1	1046.9
32.5°	974.4	988.1	999.0	1016.8	1019.5
35°	937.5	953.9	967.6	986.7	990.8
37.5°	900.6	919.8	936.2	955.3	959.4
40°	865.1	882.9	902.0	922.5	928.0
42.5°	824.1	844.6	867.8	891.1	895.2
45°	781.7	807.7	833.7	856.9	863.7
47.5°	742.1	768.1	798.1	821.4	829.6
50°	698.4	728.4	758.5	785.8	794.0
52.5°	654.6	684.7	720.2	747.6	755.8
55°	612.3	641.0	682.0	709.3	717.5
57.5°	564.4	600.0	639.6	672.4	679.2
60°	518.0	553.5	598.6	630.0	641.0
62.5°	472.9	512.5	557.6	589.0	600.0
65°	423.7	467.4	513.9	548.0	559.0
67.5°	377.2	423.7	472.9	507.0	518.0
70°	329.4	375.8	427.8	464.7	474.2
72.5°	282.9	330.7	386.8	422.3	433.2
75°	235.1	285.6	343.0	381.3	393.6
77.5°	190.0	243.3	303.4	341.7	355.3
80°	149.0	203.6	263.8	304.8	315.7
82.5°	108.0	165.4	225.5	267.9	280.2
85°	72.4	129.8	191.3	232.3	246.0
87.5°	45.1	101.1	161.3	200.9	213.2
90°	21.9	76.5	135.3	174.9	185.9
92.5°	20.5	68.3	127.1	165.4	176.3
95°	17.8	62.9	118.9	155.8	168.1
97.5°	16.4	56.0	112.1	147.6	159.9
100°	15.0	50.6	103.9	140.8	150.3
102.5°	15.0	45.1	97.0	132.6	143.5
105°	12.3	39.6	90.2	124.4	135.3
107.5°	12.3	35.5	83.4	117.5	127.1
110°	10.9	30.1	77.9	109.3	120.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	9.6	26.0	71.1	101.1	112.1
115°	8.2	20.5	64.2	94.3	103.9
117.5°	8.2	16.4	57.4	86.1	97.0
120°	6.8	10.9	50.6	77.9	88.8
122.5°	6.8	6.8	43.7	71.1	80.6
125°	5.5	4.1	38.3	64.2	72.4
127.5°	5.5	4.1	31.4	56.0	65.6
130°	4.1	2.7	24.6	49.2	57.4
132.5°	4.1	2.7	19.1	42.4	50.6
135°	2.7	2.7	12.3	34.2	42.4
137.5°	2.7	1.4	6.8	27.3	34.2
140°	2.7	1.4	2.7	20.5	27.3
142.5°	1.4	1.4	0.0	15.0	20.5
145°	1.4	0.0	0.0	8.2	13.7
147.5°	1.4	0.0	0.0	1.4	6.8
150°	1.4	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)