

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1439933

Luminaire Tested: S124DR-H865D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439933
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-563-1)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DR-H865D840-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

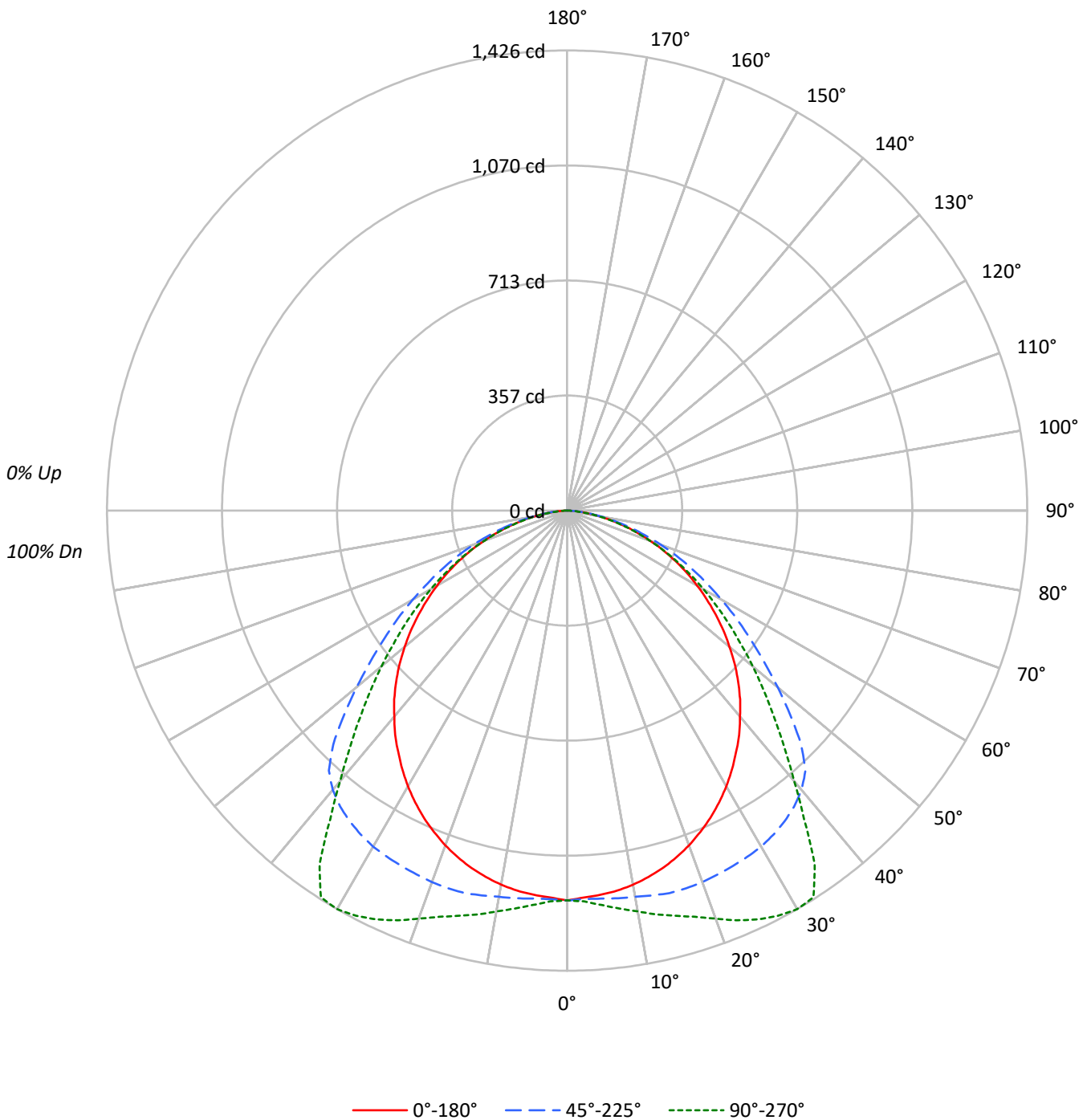
Lumens per Lamp: N/A
Luminaire Lumens: 3671.9 lumens
Efficiency: N/A
Efficacy: 118.8 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
Input Voltage (V): 120
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					
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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85					85			
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71					71			
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60					60			
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52					52			
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45					45			
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39					39			
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35					35			
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28					28			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10682	10682	10682
5°	10608	10712	10892
10°	10570	10911	11326
15°	10495	11233	11895
20°	10386	11524	12662
25°	10248	11856	13637
30°	10071	12274	14562
35°	9854	12682	14436
40°	9620	13042	12631
45°	9370	12824	11356
50°	9035	11709	10323
55°	8663	10656	9431
60°	8240	9770	8638
65°	7738	8906	7889
70°	7080	7970	7049
75°	6238	6846	6115
80°	5132	5494	4949
85°	3611	3733	3368

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 12824 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.9	3.2
10°-20°	347.4	9.5
20°-30°	565.5	15.4
30°-40°	718.1	19.6
40°-50°	699.8	19.1
50°-60°	573.7	15.6
60°-70°	400.3	10.9
70°-80°	205.5	5.6
80°-90°	45.6	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1028.9	28.0
0°-40°	1747.0	47.6
0°-60°	3020.6	82.3
0°-90°	3671.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3671.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1208	1208	1208	1208	1208	
5°	1195	1213	1207	1215	1227	114
15°	1147	1182	1227	1276	1300	323
25°	1050	1118	1215	1341	1398	484
35°	913	1002	1175	1346	1338	571
45°	749	842	1026	940	908	577
55°	562	649	691	633	612	502
65°	370	423	426	391	377	366
75°	183	203	200	186	179	194
85°	36	37	37	34	33	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1208.2	1208.2	1208.2	1208.2	1208.2
2.5°	1199.9	1215.3	1204.7	1209.4	1211.8
5°	1195.2	1213.0	1207.0	1215.3	1227.2
7.5°	1188.1	1208.2	1211.8	1228.4	1243.8
10°	1177.4	1201.1	1215.3	1243.8	1261.6
12.5°	1163.2	1192.8	1221.3	1260.4	1281.7
15°	1146.6	1182.1	1227.2	1275.8	1299.5
17.5°	1126.4	1169.1	1227.2	1287.7	1319.7
20°	1103.9	1153.7	1224.8	1303.1	1345.8
22.5°	1077.8	1137.1	1220.1	1320.9	1374.2
25°	1050.5	1118.1	1215.3	1341.0	1397.9
27.5°	1019.7	1095.6	1209.4	1356.4	1415.7
30°	986.5	1068.3	1202.3	1363.5	1426.4
32.5°	950.9	1036.3	1190.4	1363.5	1420.5
35°	913.0	1001.9	1175.0	1345.8	1337.5
37.5°	876.2	965.2	1156.0	1259.2	1207.0
40°	833.5	926.0	1130.0	1137.1	1094.4
42.5°	793.2	884.5	1093.2	1033.9	996.0
45°	749.4	841.8	1025.6	940.3	908.2
47.5°	704.3	795.6	937.9	856.1	826.4
50°	656.9	749.4	851.3	776.6	750.5
52.5°	610.6	699.6	768.3	703.1	678.2
55°	562.0	648.6	691.3	633.2	611.8
57.5°	513.4	596.4	621.3	567.9	547.8
60°	466.0	540.7	552.5	506.3	488.5
62.5°	418.5	482.6	487.3	447.0	431.6
65°	369.9	423.3	425.7	391.3	377.1
67.5°	322.5	366.4	366.4	336.7	324.9
70°	273.9	310.7	308.3	284.6	272.7
72.5°	227.7	253.7	251.4	233.6	225.3
75°	182.6	202.8	200.4	186.2	179.0
77.5°	139.9	154.1	151.8	142.3	136.4
80°	100.8	109.1	107.9	100.8	97.2
82.5°	66.4	71.1	68.8	64.0	61.7
85°	35.6	36.8	36.8	34.4	33.2
87.5°	13.0	13.0	13.0	13.0	11.9
90°	0.0	0.0	0.0	0.0	0.0

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	19.91	21.51	20.28	21.83	22.14	19.70	21.30	20.06	21.61	21.93
	3H	21.42	22.86	21.79	23.18	23.54	21.17	22.61	21.55	22.94	23.30
	4H	21.92	23.27	22.32	23.62	24.00	21.66	23.02	22.06	23.37	23.74
	6H	22.24	23.49	22.65	23.86	24.25	21.98	23.23	22.39	23.60	23.99
	8H	22.32	23.52	22.75	23.91	24.31	22.06	23.25	22.48	23.64	24.04
	12H	22.36	23.51	22.79	23.89	24.32	22.09	23.24	22.52	23.62	24.05
4H	2H	20.54	21.89	20.93	22.24	22.61	20.37	21.72	20.76	22.07	22.44
	3H	22.27	23.39	22.68	23.79	24.19	22.03	23.16	22.44	23.56	23.96
	4H	22.89	23.91	23.33	24.32	24.76	22.63	23.65	23.06	24.06	24.50
	6H	23.32	24.21	23.78	24.65	25.10	23.04	23.93	23.50	24.37	24.83
	8H	23.43	24.26	23.90	24.70	25.17	23.15	23.97	23.61	24.42	24.88
	12H	23.50	24.24	23.98	24.72	25.19	23.21	23.95	23.69	24.42	24.89
8H	4H	23.14	23.96	23.60	24.41	24.87	22.90	23.73	23.36	24.17	24.64
	6H	23.66	24.34	24.15	24.83	25.31	23.40	24.09	23.90	24.58	25.05
	8H	23.82	24.44	24.33	24.95	25.43	23.55	24.17	24.06	24.67	25.16
	12H	23.93	24.48	24.44	24.97	25.53	23.65	24.19	24.16	24.69	25.25
12H	4H	23.15	23.89	23.63	24.37	24.84	22.92	23.66	23.40	24.14	24.61
	6H	23.68	24.30	24.19	24.80	25.29	23.43	24.05	23.94	24.56	25.04
	8H	23.89	24.43	24.40	24.93	25.49	23.63	24.17	24.13	24.66	25.22