

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: P1439923

Luminaire Tested: S124DR-H675D835-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439923
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-H675D835-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

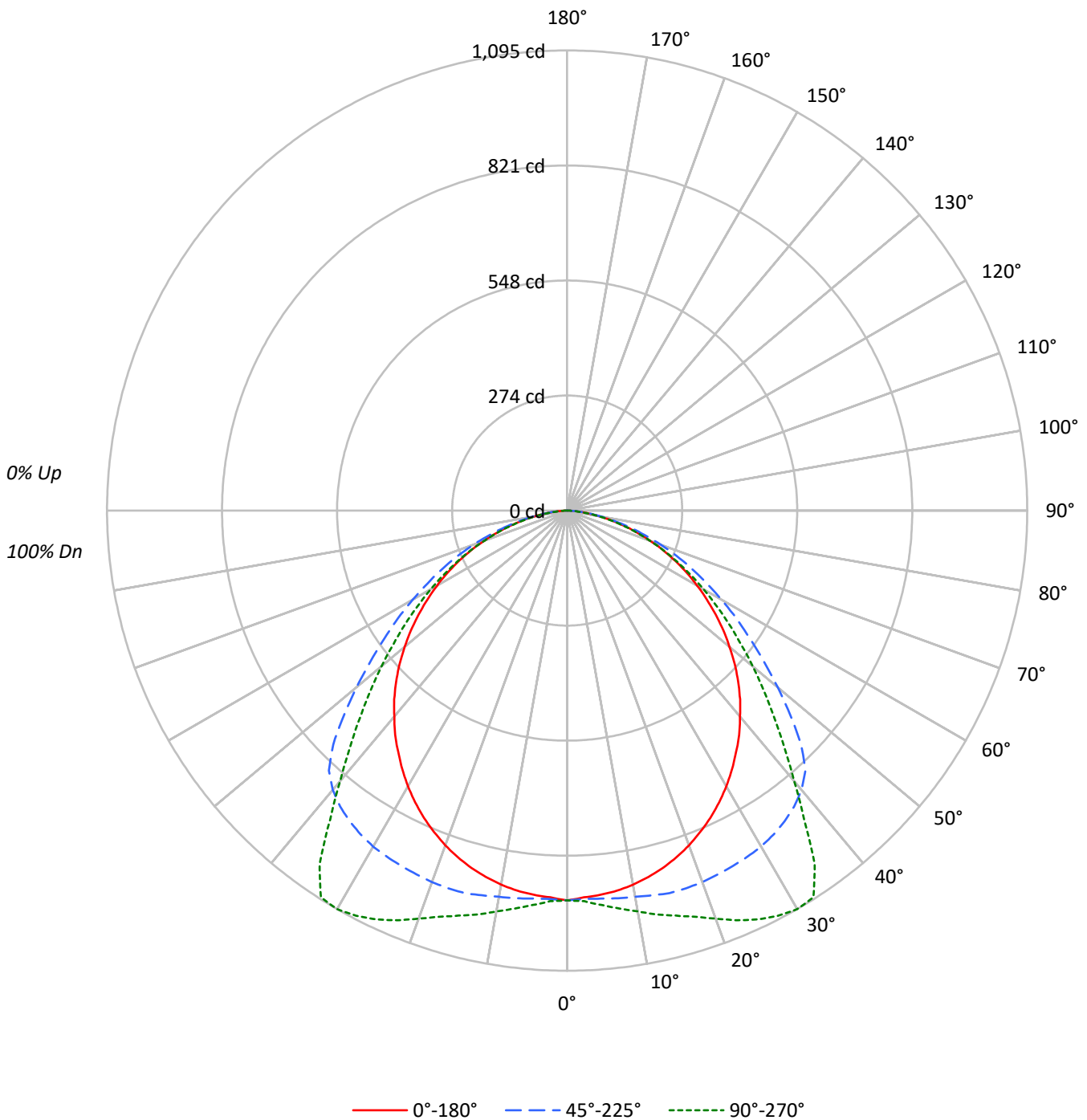
Lumens per Lamp: N/A
Luminaire Lumens: 2819.4 lumens
Efficiency: N/A
Efficacy: 118.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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: 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																		
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	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																												
1	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85																												
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71																												
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60																												
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52																												
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45																												
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39																												
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35																												
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31																												
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28																												
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8202	8202	8202
5°	8145	8225	8363
10°	8116	8378	8697
15°	8059	8625	9133
20°	7975	8849	9722
25°	7869	9104	10471
30°	7733	9425	11181
35°	7566	9738	11085
40°	7387	10013	9698
45°	7195	9847	8720
50°	6938	8991	7927
55°	6651	8182	7242
60°	6327	7503	6633
65°	5944	6837	6056
70°	5436	6119	5413
75°	4789	5257	4697
80°	3941	4216	3803
85°	2769	2861	2587

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 9847 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.0	3.2
10°-20°	266.8	9.5
20°-30°	434.2	15.4
30°-40°	551.4	19.6
40°-50°	537.3	19.1
50°-60°	440.6	15.6
60°-70°	307.4	10.9
70°-80°	157.8	5.6
80°-90°	35.0	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°	790.0	28.0
0°-40°	1341.4	47.6
0°-60°	2319.3	82.3
0°-90°	2819.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2819.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	928	928	928	928	928	
5°	918	931	927	933	942	87
15°	880	908	942	980	998	248
25°	807	858	933	1030	1073	371
35°	701	769	902	1033	1027	439
45°	575	646	788	722	697	443
55°	432	498	531	486	470	386
65°	284	325	327	300	290	281
75°	140	156	154	143	138	149
85°	27	28	28	26	26	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	927.7	927.7	927.7	927.7	927.7
2.5°	921.3	933.2	925.0	928.6	930.4
5°	917.7	931.4	926.8	933.2	942.3
7.5°	912.2	927.7	930.4	943.2	955.0
10°	904.0	922.3	933.2	955.0	968.7
12.5°	893.1	915.9	937.7	967.8	984.2
15°	880.4	907.7	942.3	979.6	997.8
17.5°	864.9	897.7	942.3	988.7	1013.3
20°	847.6	885.8	940.5	1000.6	1033.3
22.5°	827.6	873.1	936.8	1014.2	1055.2
25°	806.6	858.5	933.2	1029.7	1073.4
27.5°	783.0	841.2	928.6	1041.5	1087.0
30°	757.5	820.3	923.2	1047.0	1095.2
32.5°	730.2	795.7	914.1	1047.0	1090.7
35°	701.0	769.3	902.2	1033.3	1027.0
37.5°	672.8	741.1	887.7	966.9	926.8
40°	640.0	711.0	867.6	873.1	840.3
42.5°	609.1	679.2	839.4	793.9	764.8
45°	575.4	646.4	787.5	722.0	697.4
47.5°	540.8	610.9	720.1	657.3	634.6
50°	504.4	575.4	653.7	596.3	576.3
52.5°	468.9	537.1	590.0	539.9	520.8
55°	431.5	498.0	530.8	486.2	469.8
57.5°	394.2	457.9	477.1	436.1	420.6
60°	357.8	415.2	424.3	388.7	375.1
62.5°	321.4	370.5	374.2	343.2	331.4
65°	284.1	325.0	326.8	300.4	289.5
67.5°	247.6	281.3	281.3	258.6	249.5
70°	210.3	238.5	236.7	218.5	209.4
72.5°	174.8	194.8	193.0	179.4	173.0
75°	140.2	155.7	153.9	142.9	137.5
77.5°	107.4	118.4	116.5	109.3	104.7
80°	77.4	83.8	82.8	77.4	74.7
82.5°	51.0	54.6	52.8	49.2	47.3
85°	27.3	28.2	28.2	26.4	25.5
87.5°	10.0	10.0	10.0	10.0	9.1
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	19.00	20.59	19.36	20.91	21.22	18.78	20.38	19.15	20.69	21.01
	3H	20.50	21.94	20.88	22.26	22.63	20.25	21.69	20.63	22.02	22.38
	4H	21.00	22.35	21.40	22.70	23.08	20.75	22.10	21.15	22.45	22.83
	6H	21.32	22.57	21.73	22.94	23.33	21.06	22.32	21.48	22.68	23.07
	8H	21.40	22.60	21.83	22.99	23.39	21.14	22.33	21.57	22.72	23.12
	12H	21.44	22.59	21.87	22.97	23.40	21.17	22.32	21.60	22.70	23.13
4H	2H	19.62	20.97	20.02	21.32	21.69	19.45	20.80	19.85	21.15	21.53
	3H	21.35	22.47	21.76	22.87	23.27	21.12	22.24	21.53	22.64	23.04
	4H	21.97	22.99	22.41	23.41	23.84	21.71	22.73	22.14	23.14	23.58
	6H	22.40	23.29	22.86	23.73	24.19	22.13	23.01	22.58	23.45	23.91
	8H	22.52	23.34	22.98	23.79	24.25	22.23	23.06	22.69	23.50	23.97
	12H	22.58	23.32	23.06	23.80	24.27	22.29	23.03	22.77	23.51	23.98
8H	4H	22.22	23.04	22.68	23.49	23.95	21.98	22.81	22.45	23.26	23.72
	6H	22.74	23.43	23.24	23.92	24.39	22.49	23.17	22.98	23.66	24.14
	8H	22.91	23.52	23.42	24.03	24.51	22.63	23.25	23.14	23.76	24.24
	12H	23.01	23.56	23.52	24.05	24.61	22.73	23.28	23.24	23.77	24.33
12H	4H	22.23	22.97	22.71	23.45	23.92	22.00	22.74	22.48	23.22	23.69
	6H	22.76	23.38	23.27	23.89	24.37	22.52	23.13	23.03	23.64	24.13
	8H	22.97	23.52	23.48	24.01	24.57	22.71	23.25	23.22	23.74	24.31