

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: P1439798

Luminaire Tested: S123DR-H865D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439798
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2603-719-3)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DR-H865D840-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

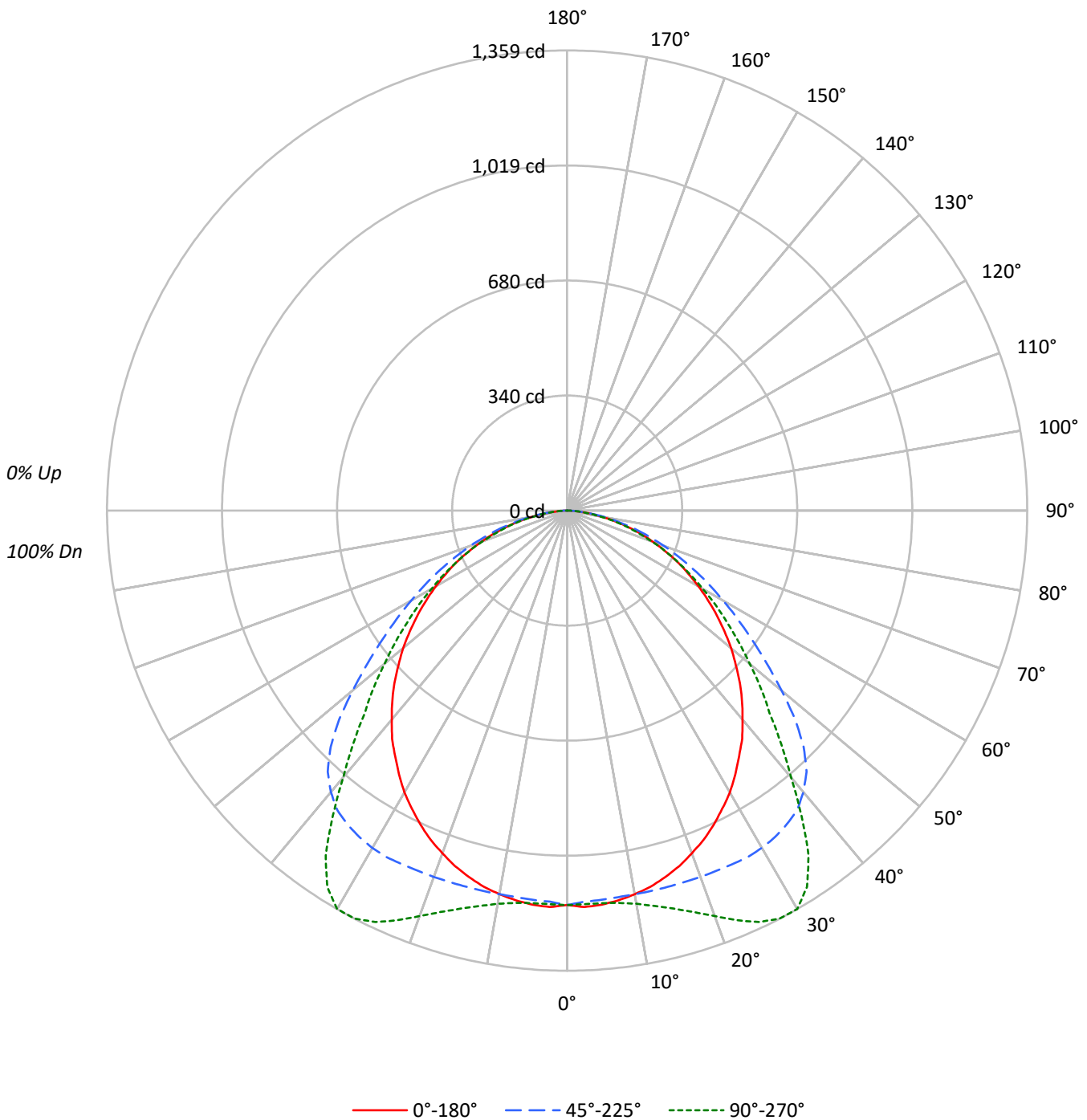
Lumens per Lamp: N/A
Luminaire Lumens: 3522.8 lumens
Efficiency: N/A
Efficacy: 114.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1439798

CATALOG NUMBER: S123DR-H865D840-X4F0-XX-UDD-FLB-W

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	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°	14042	14042	14042
5°	14139	13965	14081
10°	14082	14082	14436
15°	13981	14358	15184
20°	13816	14774	16349
25°	13619	15334	17834
30°	13381	16014	18914
35°	13030	16646	18295
40°	12682	17079	16189
45°	12302	16841	14416
50°	11860	15498	13193
55°	11342	14026	12126
60°	10805	12838	11152
65°	10273	11751	10307
70°	9511	10656	9341
75°	8585	9484	8362
80°	7193	7943	6860
85°	5492	5838	5160

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 16841 cd/sqm

TEST NUMBER: P1439798

CATALOG NUMBER: S123DR-H865D840-X4F0-XX-UDD-FLB-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.9	3.1
10°-20°	329.6	9.4
20°-30°	540.1	15.3
30°-40°	683.2	19.4
40°-50°	667.5	18.9
50°-60°	548.4	15.6
60°-70°	386.8	11.0
70°-80°	206.2	5.9
80°-90°	50.3	1.4
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°	980.6	27.8
0°-40°	1663.8	47.2
0°-60°	2879.6	81.7
0°-90°	3522.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3522.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1165	1165	1165	1165	1165	
5°	1168	1164	1154	1166	1164	111
15°	1120	1126	1150	1202	1216	316
25°	1024	1054	1153	1292	1341	471
35°	885	947	1131	1262	1243	554
45°	722	803	988	891	846	556
55°	540	620	667	600	577	483
65°	360	412	412	376	361	355
75°	184	207	204	184	180	196
85°	40	43	42	38	37	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1164.7	1164.7	1164.7	1164.7	1164.7
2.5°	1171.9	1168.3	1156.3	1167.1	1163.5
5°	1168.3	1163.5	1153.9	1165.9	1163.5
7.5°	1161.1	1158.7	1151.5	1169.5	1168.3
10°	1150.3	1149.1	1150.3	1176.8	1179.2
12.5°	1138.2	1139.4	1150.3	1187.6	1196.0
15°	1120.1	1126.2	1150.3	1202.1	1216.5
17.5°	1100.9	1110.5	1150.3	1221.3	1243.0
20°	1076.8	1093.7	1151.5	1241.8	1274.3
22.5°	1052.7	1073.2	1151.5	1269.5	1309.3
25°	1023.8	1053.9	1152.7	1292.4	1340.6
27.5°	992.5	1028.6	1153.9	1310.5	1358.6
30°	961.2	1004.5	1150.3	1317.7	1358.6
32.5°	923.8	976.8	1143.0	1305.6	1317.7
35°	885.3	946.7	1131.0	1262.3	1243.0
37.5°	849.1	914.2	1115.3	1182.8	1137.0
40°	805.8	879.3	1085.2	1081.6	1028.6
42.5°	764.8	841.9	1046.7	979.2	935.9
45°	721.5	803.4	987.7	891.3	845.5
47.5°	675.7	761.2	913.0	808.2	775.7
50°	632.3	717.9	826.3	732.3	703.4
52.5°	585.4	672.1	743.2	664.9	639.6
55°	539.6	620.3	667.3	599.8	576.9
57.5°	493.8	569.7	597.4	538.4	520.3
60°	448.1	516.7	532.4	481.8	462.5
62.5°	403.5	467.3	472.1	427.6	410.7
65°	360.1	411.9	411.9	375.8	361.3
67.5°	314.4	358.9	356.5	322.8	314.4
70°	269.8	307.1	302.3	274.6	265.0
72.5°	227.6	255.3	251.7	230.1	219.2
75°	184.3	207.2	203.6	184.3	179.5
77.5°	143.3	159.0	155.4	142.1	138.5
80°	103.6	115.6	114.4	104.8	98.8
82.5°	69.9	75.9	74.7	68.7	65.0
85°	39.7	43.4	42.2	38.5	37.3
87.5°	15.7	18.1	19.3	18.1	16.9
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1439798

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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	20.82	22.42	21.18	22.74	23.05	20.54	22.15	20.91	22.46	22.78
	3H	22.39	23.83	22.76	24.16	24.52	22.06	23.51	22.44	23.83	24.19
	4H	22.94	24.30	23.34	24.65	25.02	22.60	23.96	22.99	24.30	24.68
	6H	23.30	24.56	23.71	24.93	25.32	22.95	24.21	23.36	24.58	24.97
	8H	23.40	24.60	23.83	24.99	25.39	23.05	24.25	23.47	24.64	25.04
	12H	23.46	24.61	23.89	24.99	25.42	23.10	24.25	23.53	24.63	25.06
4H	2H	21.46	22.82	21.85	23.16	23.54	21.24	22.60	21.64	22.95	23.33
	3H	23.26	24.40	23.67	24.80	25.20	22.96	24.09	23.37	24.49	24.89
	4H	23.95	24.98	24.38	25.39	25.83	23.60	24.62	24.03	25.03	25.47
	6H	24.43	25.33	24.89	25.77	26.22	24.06	24.95	24.51	25.39	25.85
	8H	24.57	25.40	25.03	25.84	26.31	24.18	25.02	24.64	25.46	25.93
	12H	24.65	25.40	25.13	25.88	26.35	24.26	25.01	24.74	25.49	25.96
8H	4H	24.22	25.05	24.68	25.49	25.96	23.90	24.74	24.36	25.18	25.65
	6H	24.81	25.50	25.30	25.99	26.46	24.46	25.16	24.96	25.65	26.12
	8H	25.00	25.62	25.51	26.13	26.62	24.64	25.26	25.15	25.77	26.26
	12H	25.14	25.69	25.65	26.18	26.74	24.77	25.32	25.28	25.81	26.38
12H	4H	24.23	24.98	24.71	25.46	25.93	23.93	24.68	24.41	25.16	25.63
	6H	24.84	25.46	25.35	25.97	26.46	24.51	25.13	25.02	25.64	26.12
	8H	25.08	25.63	25.59	26.12	26.69	24.74	25.29	25.24	25.78	26.34