

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



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: P931018

Luminaire Tested: DFN2DS-SQ3F0-100DS850-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931018
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ3F0-100DS850-RLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

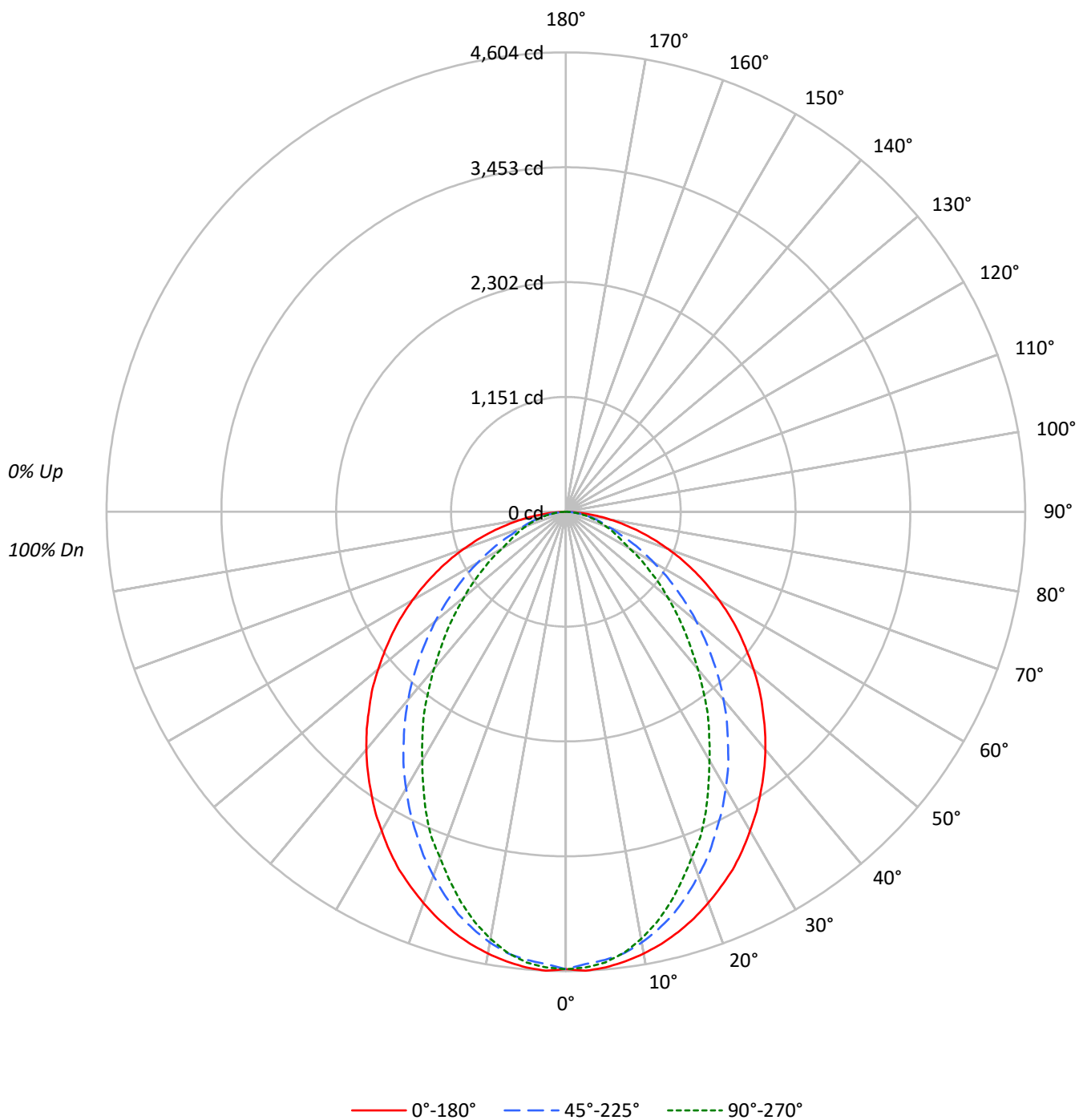
Lumens per Lamp: N/A
Luminaire Lumens: 9426.5 lumens
Efficiency: N/A
Efficacy: 90.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 104.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931018

CATALOG NUMBER: DFN2DS-SQ3F0-100DS850-RLL

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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92	90	88	86
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82	79	76	74
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74	69	66	64
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66	62	57	55
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60	55	51	49
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51	45	41	39
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5252	5252	5252
5°	5272	5186	5215
10°	5231	5101	5058
15°	5171	4950	4807
20°	5088	4734	4496
25°	5003	4489	4195
30°	4885	4236	3809
35°	4769	3963	3469
40°	4653	3679	3077
45°	4517	3361	2722
50°	4377	3039	2374
55°	4234	2693	2039
60°	4068	2329	1692
65°	3880	1957	1540
70°	3655	1611	1417
75°	3378	1469	1323
80°	2982	1313	1206
85°	2343	1035	1035

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4517 cd/sqm

TEST NUMBER: P931018

CATALOG NUMBER: DFN2DS-SQ3F0-100DS850-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	429.6	4.6
10°-20°	1179.3	12.5
20°-30°	1655.6	17.6
30°-40°	1804.7	19.1
40°-50°	1658.8	17.6
50°-60°	1302.7	13.8
60°-70°	847.9	9.0
70°-80°	436.5	4.6
80°-90°	111.4	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°	3264.5	34.6
0°-40°	5069.2	53.8
0°-60°	8030.6	85.2
0°-90°	9426.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9426.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4584	4584	4584	4584	4584	
5°	4584	4563	4509	4546	4534	435
15°	4360	4314	4173	4094	4053	1228
25°	3957	3824	3551	3381	3318	1820
35°	3410	3198	2833	2572	2480	2134
45°	2788	2509	2074	1779	1680	2153
55°	2119	1796	1348	1099	1020	1894
65°	1431	1095	722	581	568	1419
75°	763	473	332	303	299	807
85°	178	91	79	79	79	214
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-SQ3F0-100DS850-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4583.5	4583.5	4583.5	4583.5	4583.5
2.5°	4604.1	4583.5	4537.7	4579.5	4571.2
5°	4583.5	4562.8	4508.6	4546.1	4533.7
7.5°	4546.1	4521.4	4463.3	4479.6	4459.0
10°	4496.3	4467.3	4384.5	4371.8	4347.2
12.5°	4434.3	4396.9	4284.6	4260.0	4214.2
15°	4359.5	4313.7	4172.8	4094.1	4052.7
17.5°	4272.3	4205.9	4031.7	3940.5	3874.1
20°	4172.8	4089.7	3882.4	3779.0	3687.4
22.5°	4065.0	3969.6	3728.8	3588.1	3526.0
25°	3957.2	3824.4	3550.6	3380.7	3318.2
27.5°	3828.7	3687.4	3384.7	3189.7	3094.2
30°	3691.9	3533.8	3202.0	2990.9	2878.6
32.5°	3559.0	3367.9	3028.2	2779.2	2675.2
35°	3409.7	3198.1	2833.3	2571.9	2480.3
37.5°	3264.6	3036.1	2650.6	2364.2	2260.7
40°	3111.0	2862.3	2459.7	2165.2	2057.4
42.5°	2953.4	2688.0	2269.1	1961.9	1858.5
45°	2787.5	2509.3	2074.2	1779.3	1679.8
47.5°	2630.0	2335.6	1887.5	1592.6	1501.6
50°	2455.7	2161.2	1704.9	1418.4	1331.7
52.5°	2285.3	1974.2	1530.6	1256.8	1178.1
55°	2119.4	1796.0	1348.0	1099.4	1020.5
57.5°	1949.6	1617.7	1186.5	954.1	887.6
60°	1775.3	1443.5	1016.2	804.9	738.5
62.5°	1605.4	1273.6	870.9	672.1	639.0
65°	1431.2	1094.9	721.7	580.9	568.1
67.5°	1265.3	929.0	580.9	510.0	497.7
70°	1090.9	767.5	481.0	439.6	423.0
72.5°	925.0	617.8	402.2	369.2	360.9
75°	763.1	472.7	331.8	302.8	298.8
77.5°	601.6	335.8	261.4	244.6	236.3
80°	451.9	240.8	199.0	182.7	182.7
82.5°	315.1	161.9	136.9	128.5	128.5
85°	178.2	91.0	78.7	78.7	78.7
87.5°	66.4	33.0	33.0	29.1	29.1
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	17.00	18.52	17.36	18.83	19.15	12.96	14.48	13.32	14.79	15.11
	3H	18.76	20.13	19.14	20.46	20.82	14.22	15.59	14.60	15.92	16.28
	4H	19.43	20.71	19.83	21.06	21.44	14.72	16.01	15.12	16.35	16.73
	6H	19.92	21.10	20.33	21.47	21.86	15.11	16.29	15.52	16.65	17.05
	8H	20.08	21.21	20.51	21.60	22.00	15.23	16.36	15.66	16.75	17.15
	12H	20.19	21.26	20.62	21.65	22.08	15.31	16.39	15.74	16.77	17.20
4H	2H	17.10	18.38	17.50	18.73	19.11	13.65	14.93	14.05	15.28	15.66
	3H	19.03	20.10	19.44	20.50	20.90	15.10	16.16	15.51	16.56	16.96
	4H	19.78	20.74	20.22	21.16	21.59	15.70	16.65	16.13	17.07	17.51
	6H	20.38	21.21	20.83	21.65	22.11	16.18	17.02	16.64	17.46	17.92
	8H	20.59	21.37	21.05	21.81	22.28	16.35	17.12	16.81	17.57	18.03
	12H	20.74	21.44	21.23	21.92	22.39	16.46	17.16	16.95	17.64	18.11
8H	4H	19.81	20.59	20.27	21.03	21.50	16.05	16.83	16.51	17.27	17.74
	6H	20.45	21.09	20.94	21.58	22.06	16.64	17.28	17.13	17.77	18.25
	8H	20.70	21.27	21.21	21.78	22.27	16.86	17.43	17.37	17.94	18.43
	12H	20.90	21.41	21.41	21.90	22.47	17.04	17.55	17.55	18.04	18.60
12H	4H	19.79	20.49	20.27	20.97	21.44	16.09	16.79	16.57	17.27	17.74
	6H	20.43	21.00	20.94	21.51	22.00	16.70	17.28	17.21	17.79	18.27
	8H	20.71	21.22	21.22	21.71	22.28	16.97	17.48	17.48	17.97	18.54