

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: P931030

Luminaire Tested: DFN2DS-SQ3F0-110DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931030
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-SQ3F0-110DS830-RLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

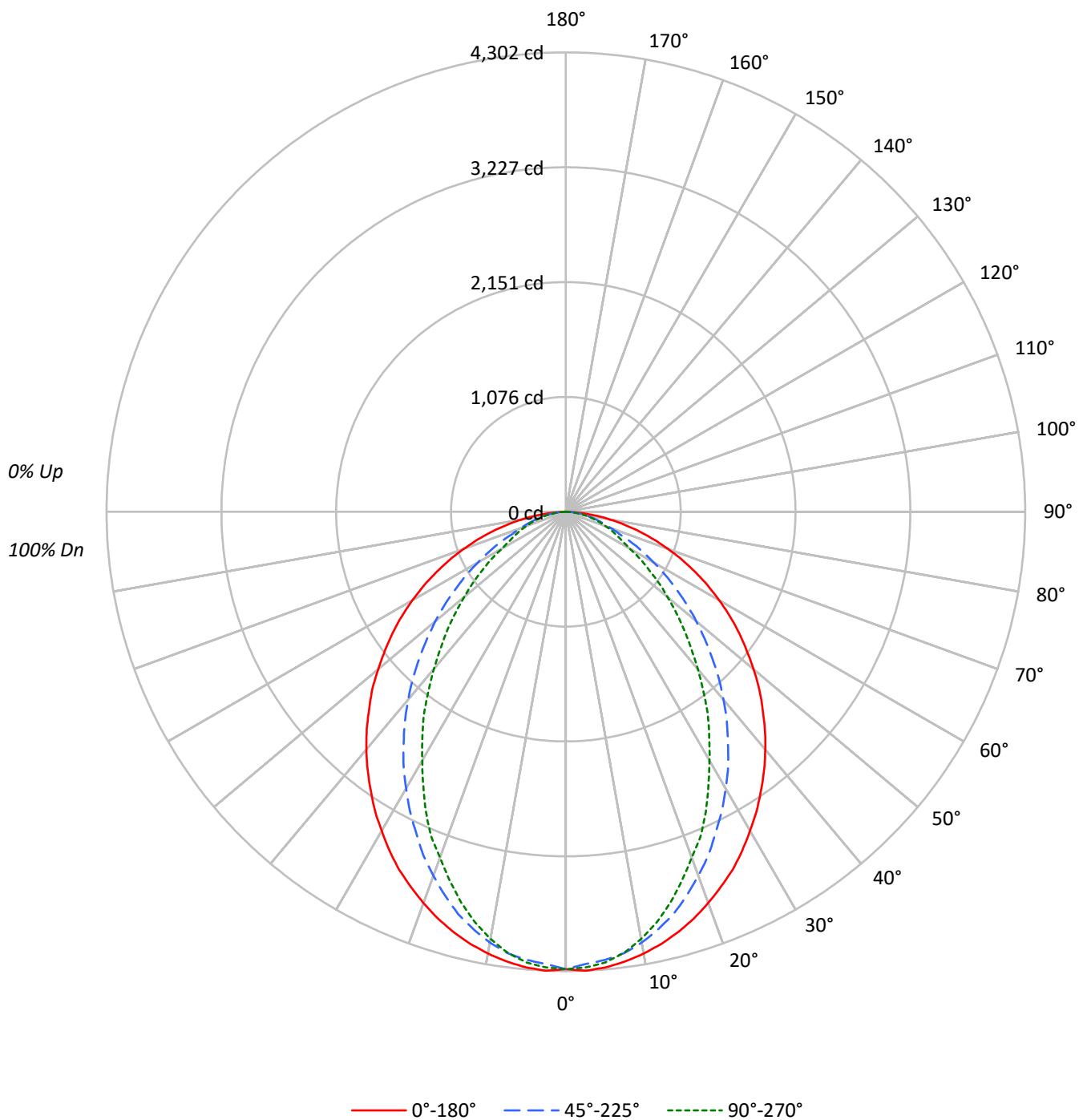
Lumens per Lamp: N/A
Luminaire Lumens: 8807.7 lumens
Efficiency: N/A
Efficacy: 74.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 117.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4907	4907	4907
5°	4926	4845	4872
10°	4888	4767	4726
15°	4832	4625	4492
20°	4754	4423	4201
25°	4674	4194	3920
30°	4564	3958	3558
35°	4456	3703	3242
40°	4348	3438	2875
45°	4220	3140	2543
50°	4090	2840	2218
55°	3956	2516	1905
60°	3801	2176	1581
65°	3625	1828	1439
70°	3415	1506	1324
75°	3156	1372	1236
80°	2787	1227	1126
85°	2189	968	968

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4220 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	401.4	4.6
10°-20°	1101.8	12.5
20°-30°	1546.9	17.6
30°-40°	1686.3	19.1
40°-50°	1549.9	17.6
50°-60°	1217.2	13.8
60°-70°	792.3	9.0
70°-80°	407.8	4.6
80°-90°	104.1	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°	3050.2	34.6
0°-40°	4736.4	53.8
0°-60°	7503.5	85.2
0°-90°	8807.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8807.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4283	4283	4283	4283	4283	
5°	4283	4263	4213	4248	4236	406
15°	4073	4030	3899	3825	3787	1148
25°	3697	3573	3318	3159	3100	1700
35°	3186	2988	2647	2403	2318	1994
45°	2604	2345	1938	1662	1570	2011
55°	1980	1678	1260	1027	954	1770
65°	1337	1023	674	543	531	1326
75°	713	442	310	283	279	754
85°	166	85	74	74	74	200
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4282.6	4282.6	4282.6	4282.6	4282.6
2.5°	4301.9	4282.6	4239.8	4278.9	4271.1
5°	4282.6	4263.3	4212.7	4247.7	4236.2
7.5°	4247.7	4224.6	4170.3	4185.6	4166.2
10°	4201.2	4174.0	4096.8	4084.8	4061.8
12.5°	4143.2	4108.3	4003.4	3980.3	3937.6
15°	4073.3	4030.5	3898.9	3825.4	3786.7
17.5°	3991.9	3929.8	3767.0	3681.8	3619.7
20°	3898.9	3821.2	3627.5	3530.9	3445.4
22.5°	3798.2	3708.9	3484.1	3352.5	3294.5
25°	3697.4	3573.3	3317.5	3158.8	3100.4
27.5°	3577.4	3445.4	3162.5	2980.3	2891.1
30°	3449.5	3301.9	2991.9	2794.4	2689.6
32.5°	3325.4	3146.8	2829.4	2596.7	2499.7
35°	3185.9	2988.1	2647.3	2403.0	2317.5
37.5°	3050.3	2836.8	2476.6	2208.9	2112.3
40°	2906.7	2674.4	2298.2	2023.0	1922.3
42.5°	2759.5	2511.6	2120.2	1833.1	1736.5
45°	2604.5	2344.6	1938.0	1662.4	1569.6
47.5°	2457.3	2182.2	1763.6	1488.1	1403.0
50°	2294.4	2019.4	1593.0	1325.3	1244.3
52.5°	2135.3	1844.6	1430.1	1174.4	1100.7
55°	1980.3	1678.1	1259.5	1027.2	953.6
57.5°	1821.6	1511.5	1108.5	891.5	829.3
60°	1658.8	1348.8	949.4	752.1	690.0
62.5°	1500.0	1190.0	813.8	627.9	597.0
65°	1337.2	1023.0	674.4	542.8	530.8
67.5°	1182.2	868.1	542.8	476.6	465.1
70°	1019.3	717.1	449.4	410.8	395.2
72.5°	864.3	577.4	375.9	345.0	337.1
75°	713.0	441.6	310.0	282.9	279.2
77.5°	562.1	313.8	244.3	228.6	220.8
80°	422.3	224.9	185.9	170.7	170.7
82.5°	294.4	151.3	127.9	120.1	120.1
85°	166.5	85.2	73.6	73.6	73.6
87.5°	62.1	30.8	30.8	27.1	27.1
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	16.76	18.28	17.13	18.60	18.91	12.72	14.24	13.09	14.56	14.87
	3H	18.53	19.89	18.90	20.22	20.58	13.99	15.35	14.36	15.68	16.04
	4H	19.19	20.47	19.59	20.82	21.20	14.49	15.77	14.89	16.12	16.50
	6H	19.68	20.86	20.09	21.23	21.62	14.87	16.05	15.28	16.42	16.81
	8H	19.85	20.97	20.27	21.36	21.76	14.99	16.12	15.42	16.51	16.91
	12H	19.95	21.03	20.38	21.41	21.84	15.08	16.15	15.51	16.54	16.97
4H	2H	16.87	18.15	17.26	18.49	18.87	13.42	14.70	13.82	15.05	15.43
	3H	18.80	19.86	19.21	20.26	20.66	14.86	15.92	15.27	16.32	16.72
	4H	19.55	20.50	19.98	20.92	21.36	15.46	16.42	15.89	16.83	17.27
	6H	20.14	20.97	20.60	21.41	21.87	15.95	16.78	16.41	17.22	17.68
	8H	20.35	21.13	20.82	21.58	22.04	16.11	16.89	16.57	17.33	17.80
	12H	20.51	21.20	20.99	21.68	22.15	16.23	16.92	16.71	17.40	17.87
8H	4H	19.57	20.35	20.04	20.79	21.26	15.81	16.59	16.28	17.04	17.50
	6H	20.21	20.85	20.71	21.34	21.82	16.40	17.04	16.90	17.53	18.01
	8H	20.46	21.04	20.97	21.55	22.03	16.62	17.20	17.14	17.71	18.20
	12H	20.66	21.17	21.17	21.67	22.23	16.80	17.31	17.31	17.80	18.37
12H	4H	19.56	20.25	20.04	20.73	21.20	15.86	16.55	16.34	17.03	17.50
	6H	20.19	20.77	20.70	21.28	21.77	16.46	17.04	16.98	17.55	18.04
	8H	20.47	20.98	20.98	21.48	22.04	16.74	17.25	17.25	17.74	18.30