

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: P931062

Luminaire Tested: DFN2DS-SQ3F0-120DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931062
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-SQ3F0-120DS940-RLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

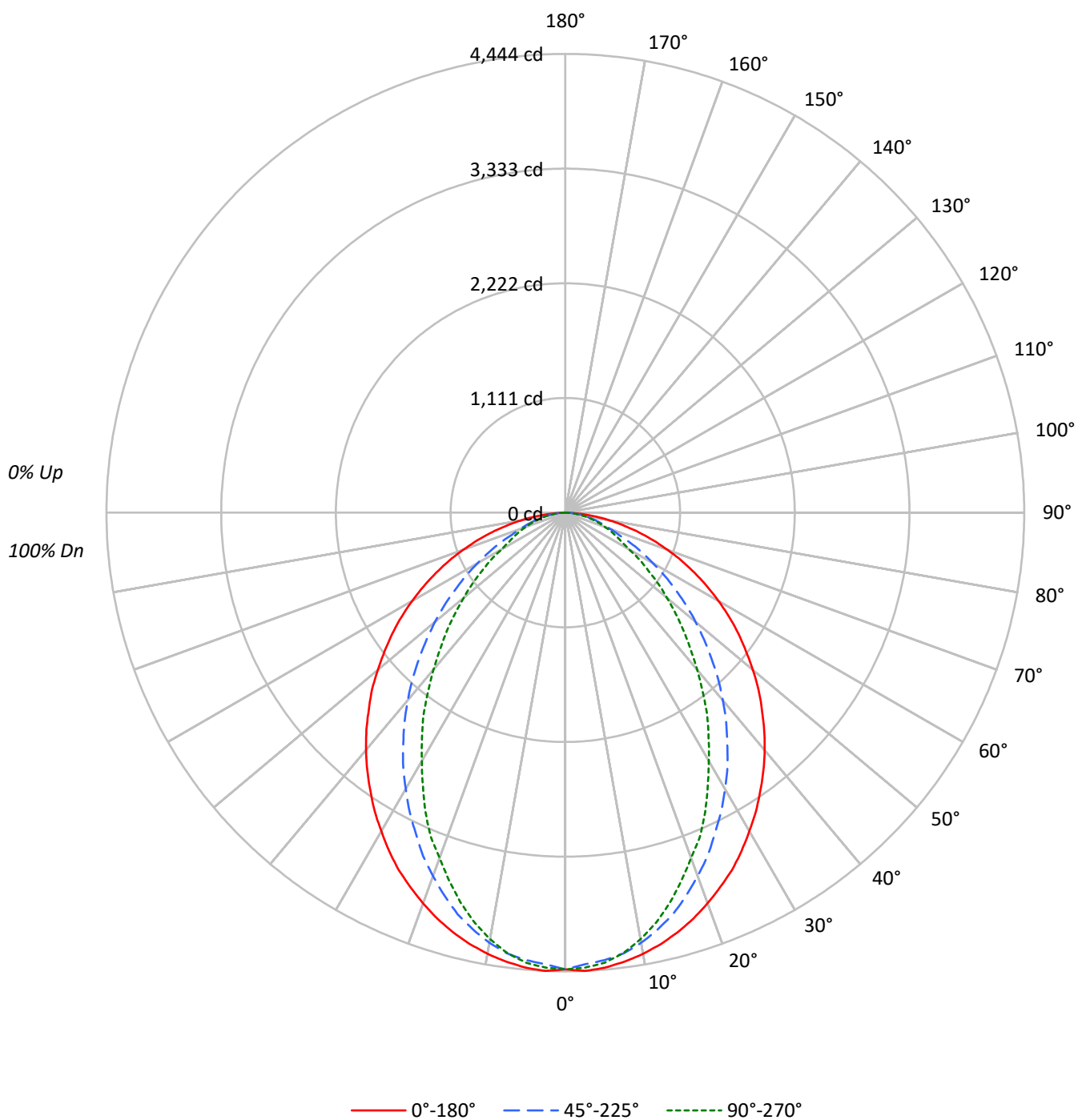
Lumens per Lamp: N/A
Luminaire Lumens: 9098.4 lumens
Efficiency: N/A
Efficacy: 69.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 131.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
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°	5069	5069	5069
5°	5088	5005	5033
10°	5049	4924	4882
15°	4991	4778	4640
20°	4911	4569	4340
25°	4829	4333	4049
30°	4715	4089	3676
35°	4603	3825	3349
40°	4491	3551	2970
45°	4360	3244	2627
50°	4225	2933	2291
55°	4087	2599	1968
60°	3927	2248	1633
65°	3745	1889	1487
70°	3528	1555	1368
75°	3261	1418	1277
80°	2879	1267	1163
85°	2263	999	999

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4360 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	414.6	4.6
10°-20°	1138.2	12.5
20°-30°	1598.0	17.6
30°-40°	1741.9	19.1
40°-50°	1601.0	17.6
50°-60°	1257.3	13.8
60°-70°	818.4	9.0
70°-80°	421.3	4.6
80°-90°	107.5	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°	3150.8	34.6
0°-40°	4892.8	53.8
0°-60°	7751.1	85.2
0°-90°	9098.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9098.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4424	4424	4424	4424	4424	
5°	4424	4404	4352	4388	4376	419
15°	4208	4164	4028	3952	3912	1186
25°	3820	3691	3427	3263	3203	1757
35°	3291	3087	2735	2482	2394	2060
45°	2690	2422	2002	1717	1621	2078
55°	2046	1734	1301	1061	985	1828
65°	1381	1057	697	561	548	1369
75°	736	456	320	292	288	779
85°	172	88	76	76	76	206
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4424.0	4424.0	4424.0	4424.0	4424.0
2.5°	4443.9	4424.0	4379.8	4420.1	4412.0
5°	4424.0	4404.0	4351.7	4387.8	4376.0
7.5°	4387.8	4364.0	4308.0	4323.7	4303.7
10°	4339.8	4311.8	4231.9	4219.6	4195.9
12.5°	4279.9	4243.9	4135.5	4111.8	4067.6
15°	4207.7	4163.6	4027.6	3951.6	3911.7
17.5°	4123.6	4059.5	3891.3	3803.4	3739.3
20°	4027.6	3947.4	3747.3	3647.5	3559.1
22.5°	3923.6	3831.4	3599.0	3463.1	3403.2
25°	3819.5	3691.2	3427.0	3263.0	3202.7
27.5°	3695.5	3559.1	3266.9	3078.7	2986.5
30°	3563.4	3410.9	3090.6	2886.7	2778.4
32.5°	3435.1	3250.7	2922.8	2682.4	2582.2
35°	3291.1	3086.8	2734.6	2482.3	2393.9
37.5°	3150.9	2930.5	2558.3	2281.8	2182.0
40°	3002.7	2762.7	2374.1	2089.9	1985.8
42.5°	2850.6	2594.5	2190.1	1893.6	1793.8
45°	2690.5	2422.0	2001.9	1717.4	1621.3
47.5°	2538.4	2254.3	1821.8	1537.3	1449.3
50°	2370.2	2086.0	1645.6	1369.0	1285.4
52.5°	2205.8	1905.5	1477.3	1213.1	1137.1
55°	2045.7	1733.5	1301.1	1061.0	985.0
57.5°	1881.7	1561.4	1145.1	920.9	856.8
60°	1713.5	1393.2	980.8	776.9	712.8
62.5°	1549.6	1229.3	840.6	648.7	616.7
65°	1381.4	1056.8	696.7	560.7	548.4
67.5°	1221.2	896.6	560.7	492.3	480.4
70°	1053.0	740.8	464.3	424.3	408.2
72.5°	892.9	596.4	388.2	356.4	348.3
75°	736.5	456.2	320.3	292.2	288.4
77.5°	580.7	324.1	252.3	236.2	228.1
80°	436.3	232.4	192.0	176.3	176.3
82.5°	304.2	156.3	132.1	124.0	124.0
85°	172.1	88.0	76.0	76.0	76.0
87.5°	64.1	31.8	31.8	28.0	28.0
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	16.87	18.40	17.24	18.71	19.02	12.83	14.36	13.20	14.67	14.98
	3H	18.64	20.00	19.02	20.33	20.69	14.10	15.47	14.48	15.79	16.15
	4H	19.31	20.59	19.71	20.93	21.31	14.60	15.88	15.00	16.23	16.61
	6H	19.79	20.98	20.21	21.34	21.74	14.98	16.17	15.39	16.53	16.92
	8H	19.96	21.09	20.39	21.48	21.88	15.11	16.23	15.53	16.62	17.02
	12H	20.06	21.14	20.49	21.52	21.95	15.19	16.27	15.62	16.65	17.08
4H	2H	16.98	18.26	17.38	18.61	18.99	13.53	14.81	13.93	15.16	15.54
	3H	18.91	19.97	19.32	20.37	20.78	14.97	16.04	15.38	16.44	16.84
	4H	19.66	20.62	20.09	21.03	21.47	15.57	16.53	16.01	16.94	17.38
	6H	20.25	21.08	20.71	21.53	21.99	16.06	16.89	16.52	17.34	17.80
	8H	20.47	21.24	20.93	21.69	22.16	16.22	17.00	16.69	17.44	17.91
	12H	20.62	21.32	21.10	21.79	22.26	16.34	17.03	16.82	17.51	17.98
8H	4H	19.68	20.46	20.15	20.91	21.37	15.93	16.70	16.39	17.15	17.62
	6H	20.32	20.97	20.82	21.46	21.93	16.51	17.16	17.01	17.65	18.12
	8H	20.57	21.15	21.09	21.66	22.15	16.73	17.31	17.25	17.82	18.31
	12H	20.78	21.29	21.29	21.78	22.34	16.91	17.42	17.42	17.92	18.48
12H	4H	19.67	20.36	20.15	20.84	21.31	15.97	16.66	16.45	17.14	17.61
	6H	20.30	20.88	20.82	21.39	21.88	16.58	17.15	17.09	17.66	18.15
	8H	20.59	21.10	21.10	21.59	22.15	16.85	17.36	17.36	17.85	18.42