

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: P931208

Luminaire Tested: DFN2DS-SQ4F0-140DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931208
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-SQ4F0-140DS950-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

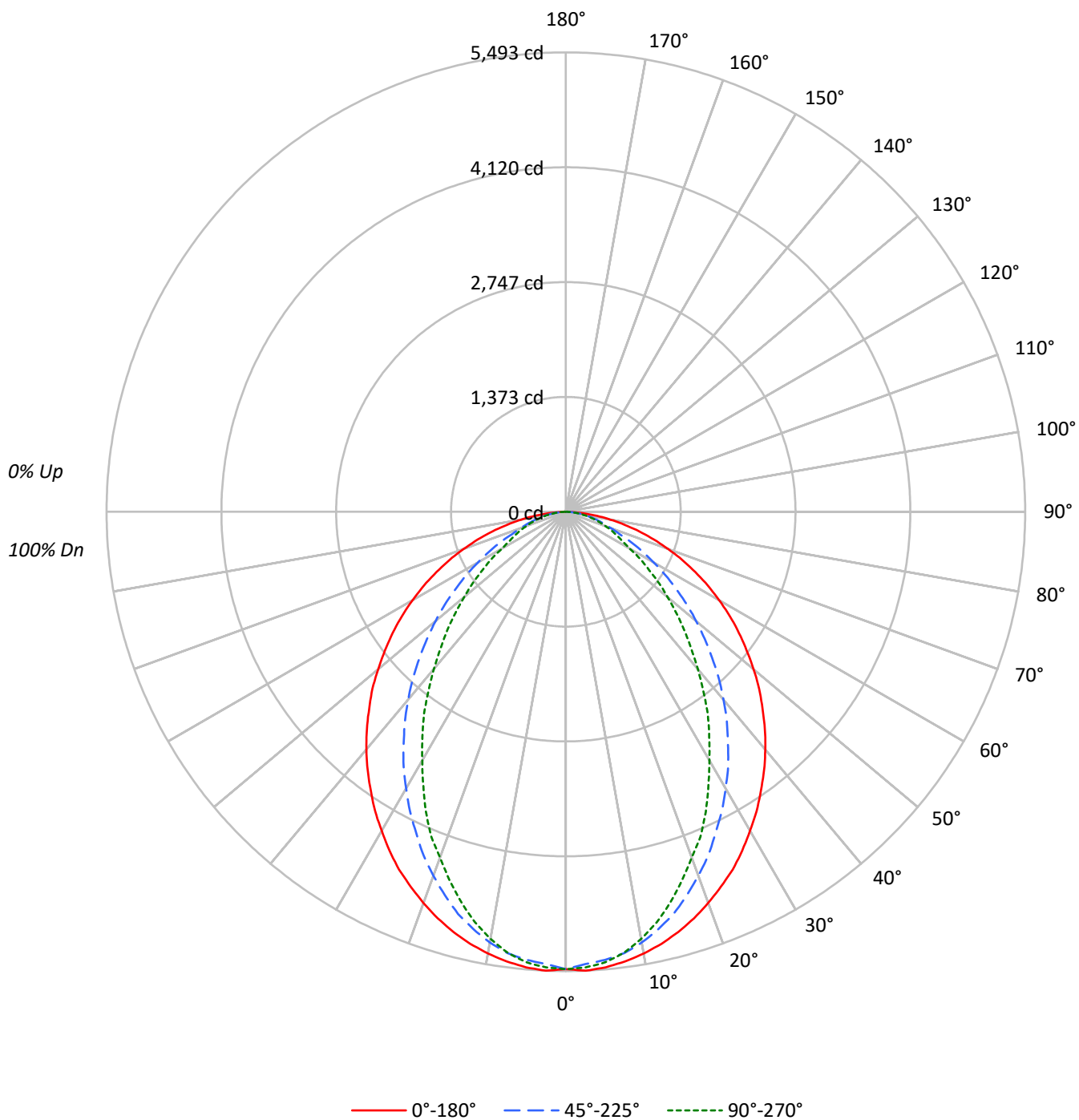
Lumens per Lamp: N/A
Luminaire Lumens: 11245.5 lumens
Efficiency: N/A
Efficacy: 74.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 151.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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°	3837	3837	3837
5°	3851	3789	3810
10°	3822	3727	3695
15°	3778	3616	3512
20°	3717	3458	3285
25°	3655	3279	3065
30°	3568	3095	2782
35°	3484	2895	2535
40°	3399	2688	2248
45°	3300	2455	1989
50°	3198	2220	1734
55°	3093	1967	1489
60°	2972	1701	1236
65°	2835	1430	1125
70°	2670	1177	1035
75°	2468	1073	966
80°	2179	959	880
85°	1712	756	756

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3300 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	512.5	4.6
10°-20°	1406.8	12.5
20°-30°	1975.1	17.6
30°-40°	2153.0	19.1
40°-50°	1978.8	17.6
50°-60°	1554.1	13.8
60°-70°	1011.5	9.0
70°-80°	520.7	4.6
80°-90°	132.9	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°	3894.4	34.6
0°-40°	6047.4	53.8
0°-60°	9580.3	85.2
0°-90°	11245.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11245.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5468	5468	5468	5468	5468	
5°	5468	5443	5379	5423	5409	518
15°	5201	5146	4978	4884	4835	1466
25°	4721	4562	4236	4033	3958	2171
35°	4068	3815	3380	3068	2959	2546
45°	3325	2994	2474	2123	2004	2568
55°	2528	2142	1608	1312	1217	2259
65°	1707	1306	861	693	678	1693
75°	910	564	396	361	356	963
85°	213	109	94	94	94	255
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5468.0	5468.0	5468.0	5468.0	5468.0
2.5°	5492.6	5468.0	5413.3	5463.2	5453.2
5°	5468.0	5443.3	5378.7	5423.4	5408.6
7.5°	5423.4	5393.9	5324.6	5344.1	5319.4
10°	5364.0	5329.3	5230.7	5215.4	5186.0
12.5°	5289.9	5245.3	5111.4	5082.0	5027.5
15°	5200.7	5146.1	4978.1	4884.1	4834.8
17.5°	5096.8	5017.5	4809.6	4700.9	4621.6
20°	4978.1	4878.8	4631.6	4508.2	4399.1
22.5°	4849.5	4735.6	4448.4	4280.4	4206.4
25°	4720.8	4562.3	4235.8	4033.1	3958.5
27.5°	4567.6	4399.1	4037.8	3805.2	3691.4
30°	4404.3	4215.8	3820.0	3567.9	3434.0
32.5°	4245.7	4017.9	3612.5	3315.4	3191.5
35°	4067.8	3815.2	3380.0	3068.1	2958.9
37.5°	3894.5	3622.0	3162.1	2820.4	2696.9
40°	3711.3	3414.7	2934.2	2583.1	2454.4
42.5°	3523.3	3206.8	2707.0	2340.5	2217.1
45°	3325.4	2993.6	2474.4	2122.6	2004.0
47.5°	3137.4	2786.2	2251.7	1900.0	1791.3
50°	2929.5	2578.3	2033.8	1692.1	1588.6
52.5°	2726.3	2355.1	1825.9	1499.4	1405.4
55°	2528.4	2142.5	1608.1	1311.5	1217.4
57.5°	2325.7	1929.9	1415.4	1138.3	1059.0
60°	2117.8	1722.0	1212.2	960.2	880.9
62.5°	1915.2	1519.4	1039.0	801.6	762.3
65°	1707.3	1306.2	861.0	693.0	677.8
67.5°	1509.4	1108.3	693.0	608.5	593.7
70°	1301.5	915.6	573.8	524.5	504.5
72.5°	1103.6	737.1	479.9	440.5	430.5
75°	910.3	563.9	395.9	361.2	356.5
77.5°	717.7	400.6	311.8	291.9	281.9
80°	539.2	287.2	237.3	217.9	217.9
82.5°	375.9	193.2	163.3	153.3	153.3
85°	212.6	108.7	93.9	93.9	93.9
87.5°	79.3	39.4	39.4	34.7	34.7
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	15.91	17.43	16.27	17.74	18.06	11.87	13.39	12.23	13.70	14.02
	3H	17.67	19.04	18.05	19.36	19.73	13.13	14.50	13.51	14.83	15.19
	4H	18.34	19.62	18.74	19.97	20.35	13.63	14.91	14.03	15.26	15.64
	6H	18.83	20.01	19.24	20.38	20.77	14.01	15.20	14.43	15.56	15.96
	8H	18.99	20.12	19.42	20.51	20.91	14.14	15.27	14.57	15.66	16.06
	12H	19.10	20.17	19.53	20.56	20.98	14.22	15.30	14.65	15.68	16.11
4H	2H	16.01	17.29	16.41	17.64	18.02	12.56	13.84	12.96	14.19	14.57
	3H	17.94	19.01	18.35	19.41	19.81	14.01	15.07	14.42	15.47	15.87
	4H	18.69	19.65	19.13	20.07	20.50	14.61	15.56	15.04	15.98	16.42
	6H	19.29	20.12	19.74	20.56	21.02	15.09	15.93	15.55	16.37	16.83
	8H	19.50	20.28	19.96	20.72	21.19	15.26	16.03	15.72	16.48	16.94
	12H	19.65	20.35	20.13	20.83	21.30	15.37	16.07	15.85	16.55	17.02
8H	4H	18.72	19.49	19.18	19.94	20.41	14.96	15.74	15.42	16.18	16.65
	6H	19.35	20.00	19.85	20.49	20.97	15.55	16.19	16.04	16.68	17.16
	8H	19.61	20.18	20.12	20.69	21.18	15.77	16.34	16.28	16.85	17.34
	12H	19.81	20.32	20.32	20.81	21.38	15.95	16.46	16.46	16.95	17.51
12H	4H	18.70	19.40	19.18	19.87	20.35	15.00	15.70	15.48	16.18	16.65
	6H	19.34	19.91	19.85	20.42	20.91	15.61	16.19	16.12	16.70	17.18
	8H	19.62	20.13	20.13	20.62	21.19	15.88	16.39	16.39	16.88	17.45