

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: P931200

Luminaire Tested: DFN2DS-SQ4F0-140DS927-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931200
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-SQ4F0-140DS927-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

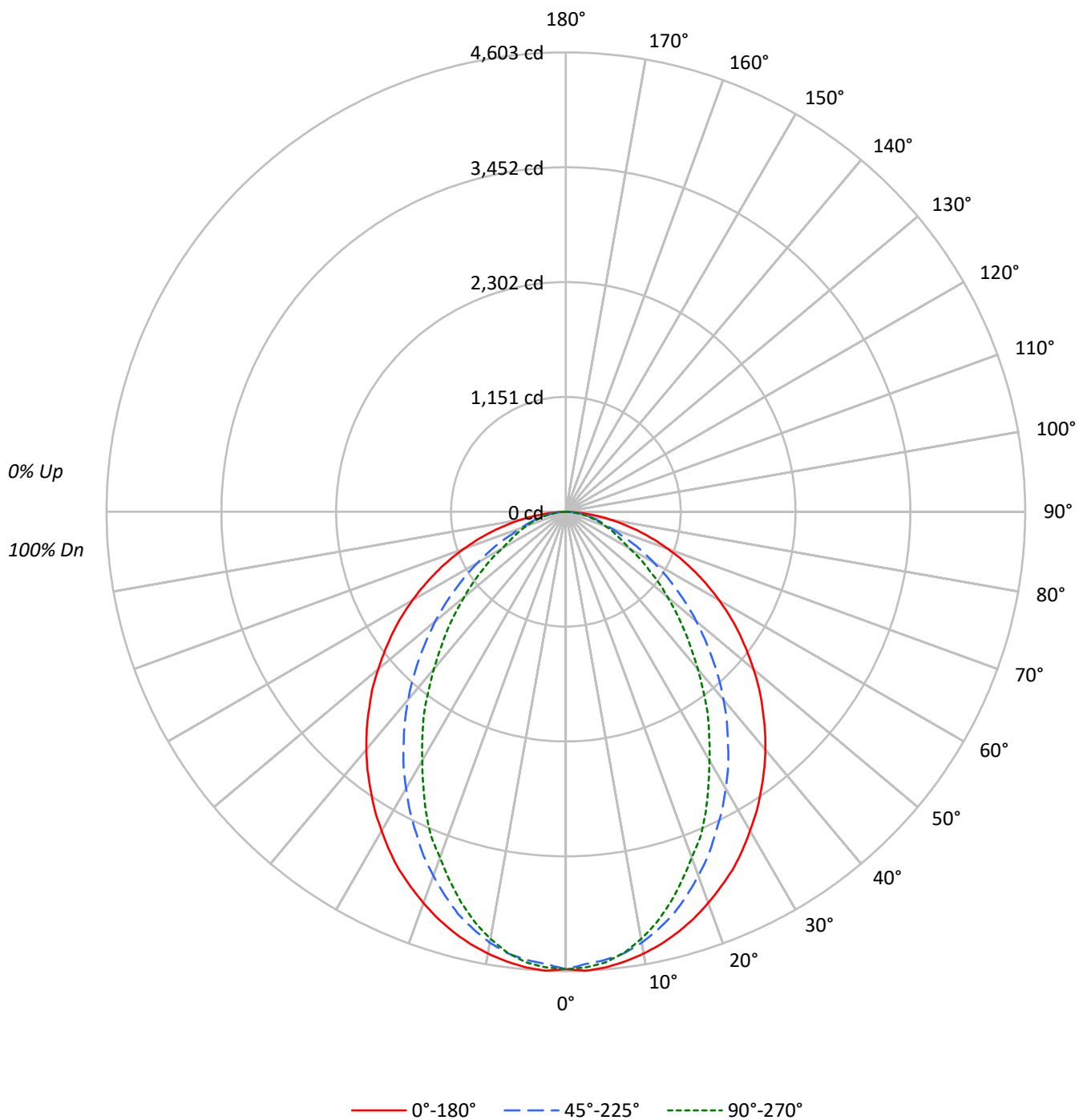
Lumens per Lamp: N/A
Luminaire Lumens: 9424.8 lumens
Efficiency: N/A
Efficacy: 62.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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°	3216	3216	3216
5°	3228	3175	3193
10°	3203	3123	3097
15°	3166	3031	2943
20°	3115	2899	2753
25°	3063	2748	2569
30°	2991	2594	2332
35°	2920	2426	2124
40°	2849	2253	1884
45°	2766	2058	1667
50°	2680	1861	1453
55°	2592	1649	1248
60°	2491	1426	1036
65°	2376	1198	943
70°	2238	987	867
75°	2068	900	810
80°	1826	804	738
85°	1435	634	634

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2766 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	429.5	4.6
10°-20°	1179.0	12.5
20°-30°	1655.3	17.6
30°-40°	1804.4	19.1
40°-50°	1658.5	17.6
50°-60°	1302.5	13.8
60°-70°	847.8	9.0
70°-80°	436.4	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°	3263.9	34.6
0°-40°	5068.3	53.8
0°-60°	8029.2	85.2
0°-90°	9424.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9424.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4583	4583	4583	4583	4583	
5°	4583	4562	4508	4545	4533	435
15°	4359	4313	4172	4093	4052	1228
25°	3956	3824	3550	3380	3318	1820
35°	3409	3198	2833	2571	2480	2134
45°	2787	2509	2074	1779	1680	2152
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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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4582.7	4582.7	4582.7	4582.7	4582.7
2.5°	4603.3	4582.7	4536.9	4578.7	4570.3
5°	4582.7	4562.0	4507.8	4545.3	4532.9
7.5°	4545.3	4520.6	4462.5	4478.8	4458.2
10°	4495.6	4466.5	4383.8	4371.0	4346.3
12.5°	4433.5	4396.1	4283.8	4259.2	4213.5
15°	4358.7	4312.9	4172.1	4093.4	4052.0
17.5°	4271.6	4205.1	4030.9	3939.8	3873.4
20°	4172.1	4088.9	3881.8	3778.3	3686.8
22.5°	4064.3	3968.9	3728.2	3587.4	3525.4
25°	3956.5	3823.6	3550.0	3380.1	3317.6
27.5°	3828.1	3686.8	3384.1	3189.1	3093.7
30°	3691.2	3533.3	3201.5	2990.3	2878.0
32.5°	3558.3	3367.3	3027.7	2778.7	2674.8
35°	3409.2	3197.5	2832.7	2571.4	2479.8
37.5°	3264.0	3035.6	2650.1	2363.7	2260.3
40°	3110.4	2861.8	2459.2	2164.9	2057.1
42.5°	2952.9	2687.6	2268.7	1961.5	1858.1
45°	2787.0	2508.9	2073.8	1778.9	1679.5
47.5°	2629.4	2335.1	1887.2	1592.4	1501.3
50°	2455.2	2160.9	1704.5	1418.2	1331.4
52.5°	2284.9	1973.8	1530.3	1256.7	1177.9
55°	2119.1	1795.6	1347.7	1099.1	1020.3
57.5°	1949.2	1617.4	1186.3	954.0	887.5
60°	1775.0	1443.2	1016.0	804.8	738.3
62.5°	1605.1	1273.4	870.8	671.9	638.9
65°	1430.9	1094.7	721.6	580.8	568.0
67.5°	1265.0	928.9	580.8	510.0	497.6
70°	1090.7	767.4	480.9	439.6	422.8
72.5°	924.9	617.8	402.2	369.2	360.8
75°	762.9	472.6	331.8	302.7	298.7
77.5°	601.5	335.7	261.4	244.6	236.3
80°	451.9	240.7	198.9	182.6	182.6
82.5°	315.1	161.9	136.9	128.5	128.5
85°	178.2	91.1	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	15.29	16.81	15.66	17.13	17.44	11.25	12.78	11.62	13.09	13.40
	3H	17.06	18.42	17.44	18.75	19.11	12.52	13.88	12.90	14.21	14.57
	4H	17.72	19.00	18.12	19.35	19.73	13.02	14.30	13.42	14.65	15.03
	6H	18.21	19.40	18.63	19.76	20.15	13.40	14.58	13.81	14.95	15.34
	8H	18.38	19.51	18.80	19.89	20.30	13.53	14.65	13.95	15.04	15.44
	12H	18.48	19.56	18.91	19.94	20.37	13.61	14.69	14.04	15.07	15.50
4H	2H	15.40	16.68	15.80	17.03	17.40	11.95	13.23	12.35	13.58	13.96
	3H	17.33	18.39	17.74	18.79	19.19	13.39	14.45	13.80	14.85	15.26
	4H	18.08	19.04	18.51	19.45	19.89	13.99	14.95	14.42	15.36	15.80
	6H	18.67	19.50	19.13	19.95	20.41	14.48	15.31	14.94	15.75	16.21
	8H	18.89	19.66	19.35	20.11	20.57	14.64	15.42	15.10	15.86	16.33
	12H	19.04	19.73	19.52	20.21	20.68	14.76	15.45	15.24	15.93	16.40
8H	4H	18.10	18.88	18.57	19.32	19.79	14.35	15.12	14.81	15.57	16.03
	6H	18.74	19.38	19.24	19.87	20.35	14.93	15.57	15.43	16.07	16.54
	8H	18.99	19.57	19.51	20.08	20.57	15.15	15.73	15.67	16.24	16.73
	12H	19.20	19.71	19.71	20.20	20.76	15.33	15.84	15.84	16.33	16.90
12H	4H	18.09	18.78	18.57	19.26	19.73	14.39	15.08	14.87	15.56	16.03
	6H	18.72	19.30	19.24	19.81	20.30	15.00	15.57	15.51	16.08	16.57
	8H	19.01	19.52	19.52	20.01	20.57	15.27	15.78	15.78	16.27	16.84