

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: P931054

Luminaire Tested: DFN2DS-SQ3F0-120DS850-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931054
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-SQ3F0-120DS850-RLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

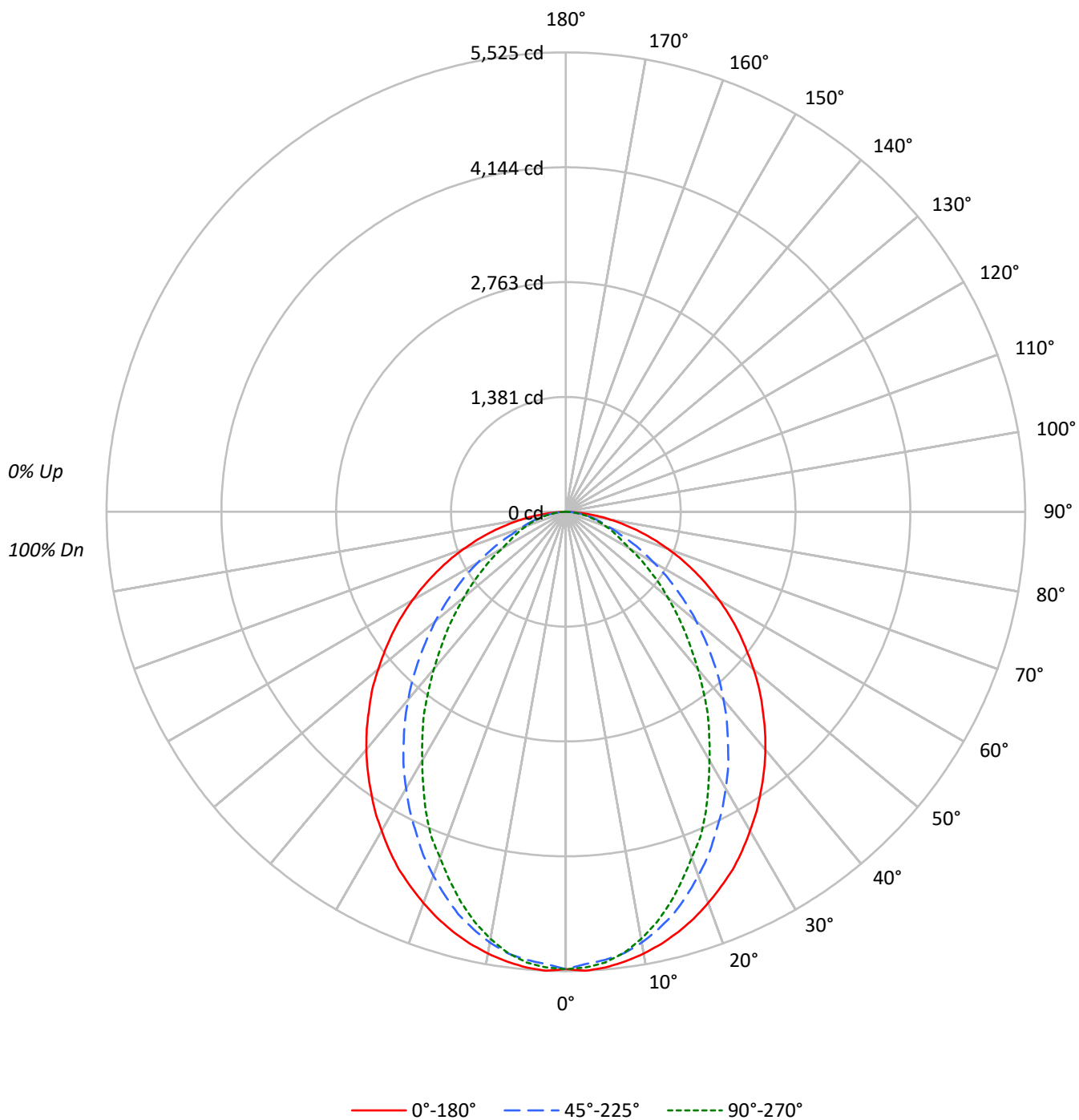
Lumens per Lamp: N/A
Luminaire Lumens: 11311.8 lumens
Efficiency: N/A
Efficacy: 86.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

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°	6302	6302	6302
5°	6326	6223	6258
10°	6278	6122	6069
15°	6206	5940	5769
20°	6106	5681	5395
25°	6004	5387	5034
30°	5861	5084	4570
35°	5723	4756	4163
40°	5584	4415	3693
45°	5420	4033	3266
50°	5253	3647	2849
55°	5081	3231	2447
60°	4882	2794	2031
65°	4656	2348	1848
70°	4386	1934	1700
75°	4054	1763	1587
80°	3579	1575	1446
85°	2812	1242	1242

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5420 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	515.5	4.6
10°-20°	1415.1	12.5
20°-30°	1986.8	17.6
30°-40°	2165.7	19.1
40°-50°	1990.5	17.6
50°-60°	1563.2	13.8
60°-70°	1017.5	9.0
70°-80°	523.8	4.6
80°-90°	133.7	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°	3917.3	34.6
0°-40°	6083.0	53.8
0°-60°	9636.8	85.2
0°-90°	11311.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11311.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5500	5500	5500	5500	5500	
5°	5500	5475	5410	5455	5440	522
15°	5231	5176	5008	4913	4863	1474
25°	4749	4589	4261	4057	3982	2184
35°	4092	3838	3400	3086	2976	2561
45°	3345	3011	2489	2135	2016	2583
55°	2543	2155	1618	1319	1225	2273
65°	1717	1314	866	697	682	1703
75°	916	567	398	363	358	969
85°	214	109	94	94	94	256
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5500.2	5500.2	5500.2	5500.2	5500.2
2.5°	5525.0	5500.2	5445.3	5495.4	5485.3
5°	5500.2	5475.4	5410.4	5455.3	5440.5
7.5°	5455.3	5425.7	5356.0	5375.5	5350.7
10°	5395.6	5360.8	5261.4	5246.1	5216.6
12.5°	5321.1	5276.3	5141.5	5112.0	5057.2
15°	5231.4	5176.5	5007.5	4912.9	4863.3
17.5°	5126.8	5047.1	4837.9	4728.7	4648.9
20°	5007.5	4907.7	4658.9	4534.8	4424.9
22.5°	4878.0	4763.5	4474.6	4305.6	4231.2
25°	4748.7	4589.2	4260.7	4056.8	3981.9
27.5°	4594.5	4424.9	4061.6	3827.7	3713.0
30°	4430.2	4240.7	3842.5	3588.9	3454.3
32.5°	4270.8	4041.5	3633.9	3335.0	3210.3
35°	4091.8	3837.7	3399.9	3086.2	2976.3
37.5°	3917.4	3643.4	3180.7	2836.9	2712.8
40°	3733.1	3434.8	2951.6	2598.3	2468.9
42.5°	3544.0	3225.6	2722.9	2354.3	2230.2
45°	3345.0	3011.3	2488.9	2135.2	2015.7
47.5°	3155.9	2802.7	2265.0	1911.3	1801.9
50°	2946.8	2593.5	2045.9	1702.1	1598.1
52.5°	2742.4	2369.0	1836.7	1508.2	1413.8
55°	2543.4	2155.2	1617.6	1319.2	1224.7
57.5°	2339.4	1941.3	1423.7	1144.9	1065.2
60°	2130.4	1732.1	1219.3	965.9	886.2
62.5°	1926.6	1528.3	1045.1	806.5	766.8
65°	1717.4	1313.9	866.1	697.1	681.8
67.5°	1518.3	1114.8	697.1	612.1	597.3
70°	1309.2	921.0	577.2	527.6	507.5
72.5°	1110.1	741.5	482.6	443.0	433.1
75°	915.7	567.1	398.2	363.3	358.5
77.5°	722.0	402.9	313.7	293.7	283.6
80°	542.4	288.9	238.7	219.1	219.1
82.5°	378.2	194.3	164.2	154.2	154.2
85°	213.9	109.3	94.5	94.5	94.5
87.5°	79.7	39.6	39.6	34.8	34.8
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	17.63	19.15	18.00	19.47	19.78	13.59	15.11	13.96	15.43	15.74
	3H	19.40	20.76	19.77	21.09	21.45	14.86	16.22	15.23	16.55	16.91
	4H	20.06	21.34	20.46	21.69	22.07	15.36	16.64	15.76	16.99	17.37
	6H	20.55	21.73	20.96	22.10	22.49	15.74	16.92	16.15	17.29	17.68
	8H	20.72	21.84	21.14	22.23	22.63	15.86	16.99	16.29	17.38	17.78
	12H	20.82	21.90	21.25	22.28	22.71	15.94	17.02	16.37	17.40	17.83
4H	2H	17.73	19.02	18.13	19.36	19.74	14.29	15.57	14.69	15.92	16.29
	3H	19.67	20.73	20.08	21.13	21.53	15.73	16.79	16.14	17.19	17.59
	4H	20.42	21.37	20.85	21.79	22.23	16.33	17.29	16.76	17.70	18.14
	6H	21.01	21.84	21.47	22.28	22.74	16.82	17.65	17.27	18.09	18.55
	8H	21.22	22.00	21.69	22.45	22.91	16.98	17.76	17.44	18.20	18.67
	12H	21.38	22.07	21.86	22.55	23.02	17.10	17.79	17.58	18.27	18.74
8H	4H	20.44	21.22	20.90	21.66	22.13	16.68	17.46	17.15	17.90	18.37
	6H	21.08	21.72	21.58	22.21	22.69	17.27	17.91	17.77	18.40	18.88
	8H	21.33	21.91	21.84	22.42	22.90	17.49	18.07	18.00	18.58	19.06
	12H	21.53	22.04	22.04	22.54	23.10	17.67	18.18	18.18	18.67	19.24
12H	4H	20.43	21.12	20.91	21.60	22.07	16.73	17.42	17.21	17.90	18.37
	6H	21.06	21.64	21.57	22.15	22.64	17.33	17.91	17.85	18.42	18.91
	8H	21.34	21.85	21.85	22.35	22.91	17.61	18.12	18.12	18.61	19.17