

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: P930976

Luminaire Tested: DFN2DS-SQ3F0-080DS830-RLL

Issue Date: 11/20/2024

**Test Information**

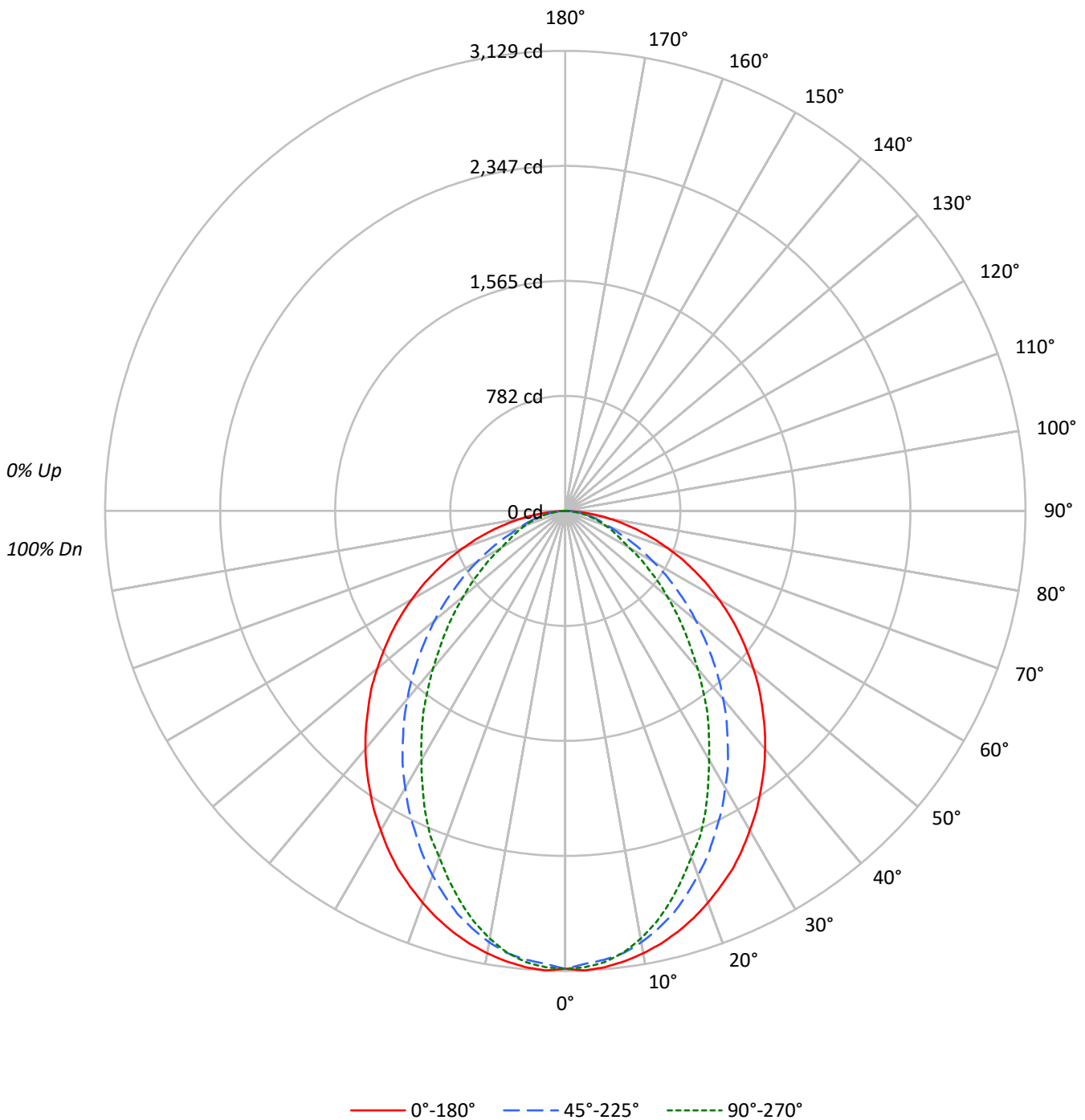
Test Method: LM-79-2019  
Report Number: P930976  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/20/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DS-SQ3F0-080DS830-RLL  
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6405.6 lumens  
Efficiency: N/A  
Efficacy: 78.1 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): 82  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9952  
Total Harmonic Distortion (THDi): 0.069  
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		0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	100	
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86	86	
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74	74	
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64	64	
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55	55	
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49	49	
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43	43	
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39	39	
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	35	35	
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	32	32	
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29	29	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3569	3569	3569
5°	3582	3524	3543
10°	3555	3467	3437
15°	3514	3364	3267
20°	3458	3217	3055
25°	3400	3050	2851
30°	3319	2879	2588
35°	3241	2693	2357
40°	3162	2500	2091
45°	3069	2284	1850
50°	2975	2065	1613
55°	2877	1830	1385
60°	2764	1582	1150
65°	2637	1330	1047
70°	2484	1095	963
75°	2296	998	899
80°	2026	892	819
85°	1592	703	703

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3069 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	291.9	4.6
10°-20°	801.3	12.5
20°-30°	1125.1	17.6
30°-40°	1226.4	19.1
40°-50°	1127.2	17.6
50°-60°	885.2	13.8
60°-70°	576.2	9.0
70°-80°	296.6	4.6
80°-90°	75.7	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°	2218.3	34.6
0°-40°	3444.7	53.8
0°-60°	5457.1	85.2
0°-90°	6405.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6405.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3115	3115	3115	3115	3115	
5°	3115	3101	3064	3089	3081	295
15°	2962	2931	2836	2782	2754	835
25°	2689	2599	2413	2297	2255	1237
35°	2317	2173	1925	1748	1685	1450
45°	1894	1705	1409	1209	1142	1463
55°	1440	1220	916	747	694	1287
65°	972	744	490	395	386	964
75°	519	321	226	206	203	548
85°	121	62	54	54	54	145
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3114.6	3114.6	3114.6	3114.6	3114.6
2.5°	3128.7	3114.6	3083.5	3111.9	3106.2
5°	3114.6	3100.6	3063.8	3089.2	3080.8
7.5°	3089.2	3072.4	3033.0	3044.1	3029.9
10°	3055.4	3035.7	2979.5	2970.8	2954.0
12.5°	3013.3	2987.8	2911.5	2894.8	2863.7
15°	2962.4	2931.3	2835.6	2782.1	2753.9
17.5°	2903.1	2858.0	2739.6	2677.7	2632.5
20°	2835.6	2779.1	2638.3	2568.0	2505.7
22.5°	2762.3	2697.4	2533.9	2438.2	2396.0
25°	2689.0	2598.8	2412.7	2297.3	2254.9
27.5°	2601.7	2505.7	2300.0	2167.5	2102.6
30°	2508.7	2401.3	2175.9	2032.4	1956.1
32.5°	2418.4	2288.7	2057.8	1888.5	1818.0
35°	2317.0	2173.2	1925.3	1747.7	1685.4
37.5°	2218.3	2063.2	1801.2	1606.5	1536.2
40°	2114.0	1945.0	1671.4	1471.3	1398.0
42.5°	2006.9	1826.6	1541.9	1333.2	1262.8
45°	1894.2	1705.2	1409.4	1209.1	1141.5
47.5°	1787.2	1587.1	1282.6	1082.3	1020.4
50°	1668.7	1468.7	1158.6	963.9	904.9
52.5°	1553.0	1341.5	1040.1	854.1	800.6
55°	1440.2	1220.5	916.0	747.0	693.5
57.5°	1324.8	1099.3	806.3	648.4	603.2
60°	1206.3	980.9	690.5	546.9	501.8
62.5°	1090.9	865.4	591.9	456.7	434.3
65°	972.5	744.0	490.4	394.8	386.0
67.5°	859.8	631.3	394.8	346.6	338.3
70°	741.4	521.6	326.9	298.7	287.4
72.5°	628.6	419.8	273.4	250.9	245.2
75°	518.6	321.2	225.5	205.7	203.1
77.5°	408.8	228.2	177.7	166.3	160.6
80°	307.1	163.6	135.2	124.1	124.1
82.5°	214.1	110.0	93.0	87.3	87.3
85°	121.1	61.9	53.5	53.5	53.5
87.5°	45.1	22.4	22.4	19.8	19.8
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	15.65	17.18	16.02	17.49	17.80	11.62	13.14	11.98	13.45	13.77
	3H	17.42	18.79	17.80	19.11	19.48	12.88	14.25	13.26	14.57	14.94
	4H	18.09	19.37	18.49	19.72	20.09	13.38	14.66	13.78	15.01	15.39
	6H	18.58	19.76	18.99	20.12	20.52	13.76	14.95	14.18	15.31	15.70
	8H	18.74	19.87	19.17	20.26	20.66	13.89	15.01	14.31	15.40	15.81
	12H	18.84	19.92	19.27	20.30	20.73	13.97	15.05	14.40	15.43	15.86
4H	2H	15.76	17.04	16.16	17.39	17.77	12.31	13.59	12.71	13.94	14.32
	3H	17.69	18.76	18.10	19.15	19.56	13.75	14.82	14.16	15.22	15.62
	4H	18.44	19.40	18.87	19.81	20.25	14.35	15.31	14.79	15.73	16.16
	6H	19.03	19.87	19.49	20.31	20.77	14.84	15.67	15.30	16.12	16.58
	8H	19.25	20.03	19.71	20.47	20.94	15.00	15.78	15.47	16.23	16.69
	12H	19.40	20.10	19.88	20.57	21.05	15.12	15.82	15.60	16.29	16.76
8H	4H	18.47	19.24	18.93	19.69	20.15	14.71	15.48	15.17	15.93	16.40
	6H	19.10	19.75	19.60	20.24	20.71	15.29	15.94	15.79	16.43	16.91
	8H	19.35	19.93	19.87	20.44	20.93	15.51	16.09	16.03	16.60	17.09
	12H	19.56	20.07	20.07	20.56	21.12	15.69	16.20	16.20	16.70	17.26
12H	4H	18.45	19.14	18.93	19.62	20.09	14.75	15.45	15.23	15.92	16.39
	6H	19.08	19.66	19.60	20.17	20.66	15.36	15.93	15.87	16.44	16.93
	8H	19.37	19.88	19.88	20.37	20.94	15.63	16.14	16.14	16.63	17.20