

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: P930992

Luminaire Tested: DFN2DS-SQ3F0-080DS950-RLL

Issue Date: 11/20/2024

**Test Information**

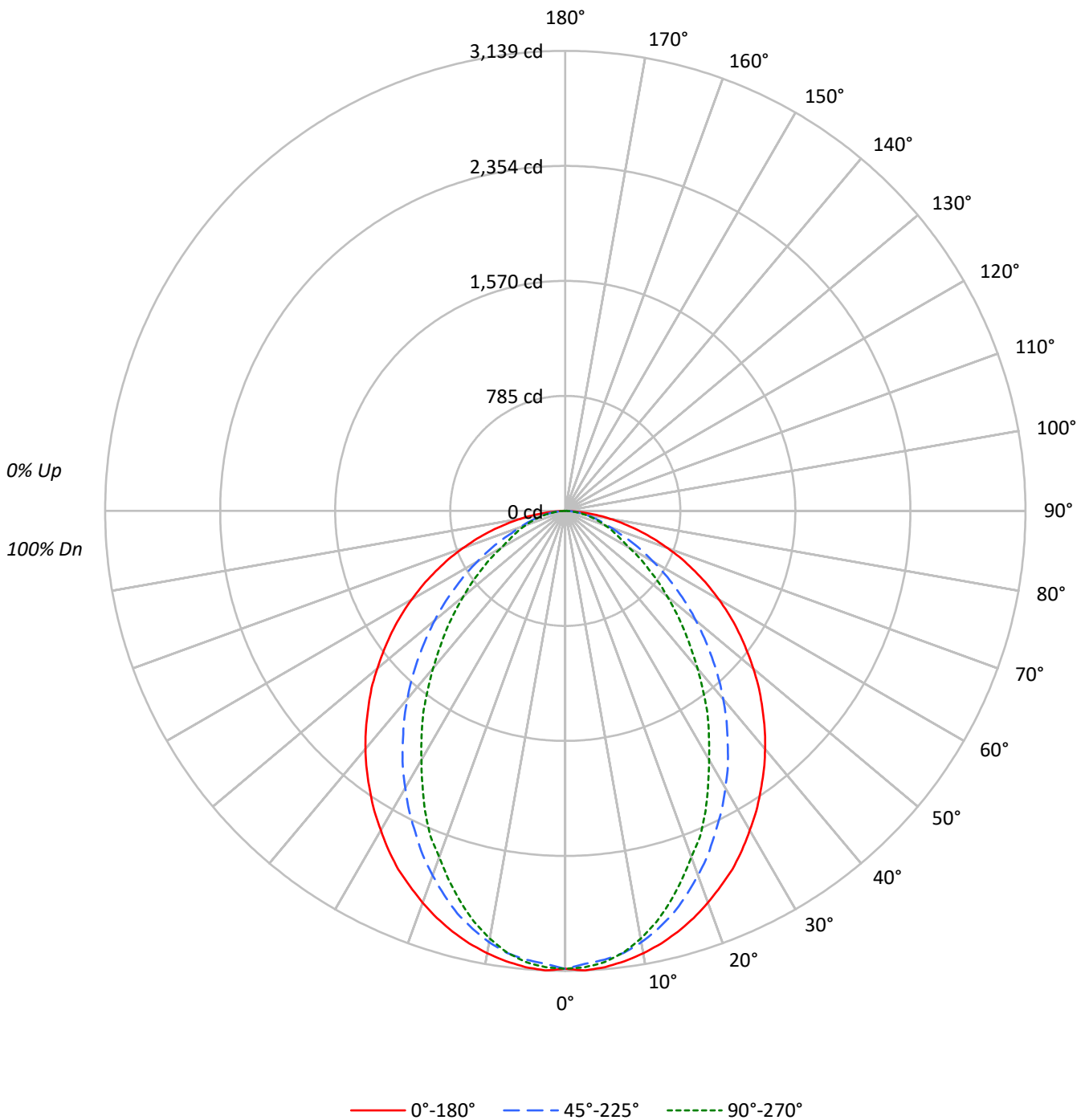
Test Method: LM-79-2019  
Report Number: P930992  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/20/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DS-SQ3F0-080DS950-RLL  
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6426.0 lumens  
Efficiency: N/A  
Efficacy: 78.4 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 (A<sub>in</sub>): 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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	88	88	88	86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	76	76	76	74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	66	66	66	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	57	57	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	51	51	51	49
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	45	45	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	41	41	41	39
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	37	37	37	35
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	34	34	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	31	31	31	29

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

	0°	45°	90°
0°	3580	3580	3580
5°	3594	3535	3555
10°	3566	3478	3448
15°	3525	3374	3277
20°	3469	3227	3065
25°	3410	3060	2860
30°	3330	2888	2596
35°	3251	2702	2365
40°	3172	2508	2098
45°	3079	2291	1856
50°	2984	2072	1618
55°	2886	1836	1390
60°	2773	1587	1154
65°	2645	1334	1050
70°	2491	1098	966
75°	2303	1001	902
80°	2033	895	822
85°	1597	706	706

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3079 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	292.8	4.6
10°-20°	803.9	12.5
20°-30°	1128.6	17.6
30°-40°	1230.3	19.1
40°-50°	1130.8	17.6
50°-60°	888.0	13.8
60°-70°	578.0	9.0
70°-80°	297.5	4.6
80°-90°	76.0	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°	2225.4	34.6
0°-40°	3455.7	53.8
0°-60°	5474.5	85.2
0°-90°	6426.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6426.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3124	3124	3124	3124	3124	
5°	3124	3110	3074	3099	3091	296
15°	2972	2941	2845	2791	2763	837
25°	2698	2607	2420	2305	2262	1241
35°	2324	2180	1931	1753	1691	1455
45°	1900	1711	1414	1213	1145	1467
55°	1445	1224	919	749	696	1291
65°	976	746	492	396	387	967
75°	520	322	226	206	204	550
85°	122	62	54	54	54	146
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3124.5	3124.5	3124.5	3124.5	3124.5
2.5°	3138.6	3124.5	3093.4	3121.8	3116.1
5°	3124.5	3110.5	3073.5	3099.0	3090.6
7.5°	3099.0	3082.2	3042.6	3053.8	3039.6
10°	3065.1	3045.4	2988.9	2980.2	2963.4
12.5°	3022.9	2997.4	2920.8	2904.0	2872.8
15°	2971.8	2940.7	2844.6	2791.0	2762.7
17.5°	2912.4	2867.1	2748.3	2686.3	2640.9
20°	2844.6	2787.9	2646.7	2576.2	2513.7
22.5°	2771.1	2706.0	2542.0	2445.9	2403.6
25°	2697.6	2607.1	2420.4	2304.7	2262.0
27.5°	2610.0	2513.7	2307.3	2174.4	2109.3
30°	2516.7	2409.0	2182.9	2038.8	1962.3
32.5°	2426.1	2296.0	2064.4	1894.5	1823.8
35°	2324.4	2180.1	1931.4	1753.3	1690.8
37.5°	2225.4	2069.7	1806.9	1611.6	1541.1
40°	2120.8	1951.2	1676.7	1476.0	1402.5
42.5°	2013.3	1832.4	1546.8	1337.5	1266.9
45°	1900.2	1710.6	1413.9	1212.9	1145.2
47.5°	1792.9	1592.1	1286.7	1085.7	1023.6
50°	1674.0	1473.3	1162.3	966.9	907.8
52.5°	1557.9	1345.8	1043.4	856.8	803.2
55°	1444.8	1224.3	918.9	749.4	695.7
57.5°	1329.0	1102.8	808.8	650.4	605.1
60°	1210.2	984.0	692.7	548.7	503.4
62.5°	1094.4	868.2	593.7	458.1	435.6
65°	975.6	746.4	492.0	396.0	387.3
67.5°	862.5	633.3	396.0	347.7	339.3
70°	743.7	523.2	327.9	299.7	288.3
72.5°	630.6	421.2	274.2	251.7	246.0
75°	520.2	322.2	226.2	206.4	203.7
77.5°	410.1	228.9	178.2	166.8	161.1
80°	308.1	164.1	135.6	124.5	124.5
82.5°	214.8	110.4	93.3	87.6	87.6
85°	121.5	62.1	53.7	53.7	53.7
87.5°	45.3	22.5	22.5	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	15.67	17.19	16.03	17.50	17.82	11.63	13.15	11.99	13.46	13.78
	3H	17.43	18.80	17.81	19.12	19.49	12.89	14.26	13.27	14.58	14.95
	4H	18.10	19.38	18.50	19.73	20.11	13.39	14.67	13.79	15.02	15.40
	6H	18.59	19.77	19.00	20.14	20.53	13.77	14.96	14.19	15.32	15.72
	8H	18.75	19.88	19.18	20.27	20.67	13.90	15.03	14.33	15.41	15.82
	12H	18.85	19.93	19.29	20.32	20.74	13.98	15.06	14.41	15.44	15.87
4H	2H	15.77	17.05	16.17	17.40	17.78	12.32	13.60	12.72	13.95	14.33
	3H	17.70	18.77	18.11	19.17	19.57	13.76	14.83	14.18	15.23	15.63
	4H	18.45	19.41	18.89	19.82	20.26	14.36	15.32	14.80	15.74	16.18
	6H	19.04	19.88	19.50	20.32	20.78	14.85	15.68	15.31	16.13	16.59
	8H	19.26	20.04	19.72	20.48	20.95	15.01	15.79	15.48	16.24	16.70
	12H	19.41	20.11	19.89	20.59	21.06	15.13	15.83	15.61	16.30	16.78
8H	4H	18.48	19.25	18.94	19.70	20.17	14.72	15.50	15.18	15.94	16.41
	6H	19.11	19.76	19.61	20.25	20.73	15.30	15.95	15.80	16.44	16.92
	8H	19.36	19.94	19.88	20.45	20.94	15.53	16.10	16.04	16.61	17.10
	12H	19.57	20.08	20.08	20.57	21.14	15.71	16.21	16.21	16.71	17.27
12H	4H	18.46	19.16	18.94	19.63	20.11	14.76	15.46	15.24	15.93	16.41
	6H	19.09	19.67	19.61	20.18	20.67	15.37	15.95	15.88	16.46	16.94
	8H	19.38	19.89	19.89	20.38	20.95	15.64	16.15	16.15	16.64	17.21