

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: P931105

Luminaire Tested: DFN2DS-SQ4F0-080DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931105
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ4F0-080DS840-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

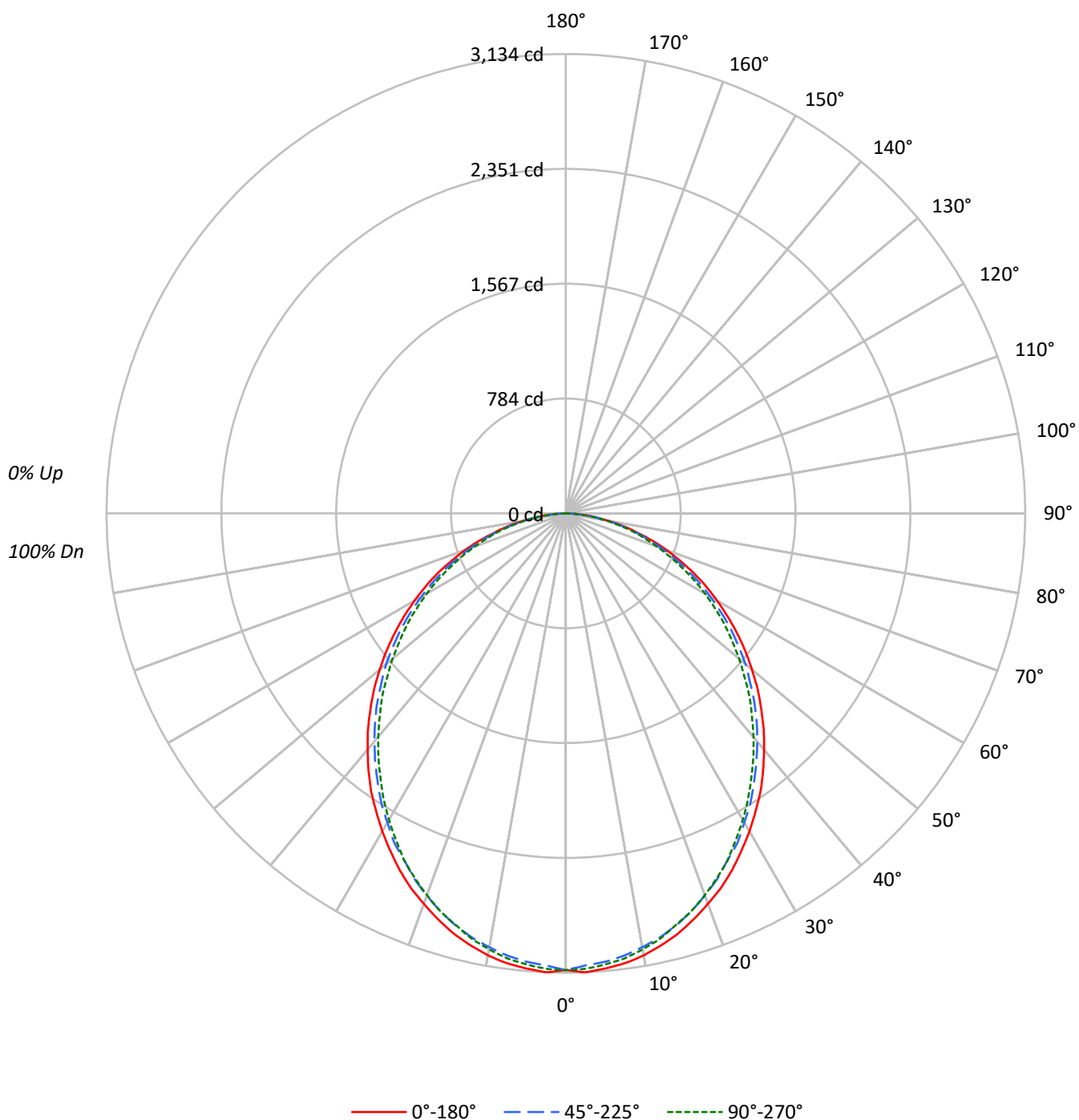
Lumens per Lamp: N/A
Luminaire Lumens: 7927.9 lumens
Efficiency: N/A
Efficacy: 100.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 79.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9954
Total Harmonic Distortion (THDi): 0.076
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931105

CATALOG NUMBER: DFN2DS-SQ4F0-080DS840-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P931105

CATALOG NUMBER: DFN2DS-SQ4F0-080DS840-FLL

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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2186	2186	2186
5°	2195	2163	2176
10°	2182	2141	2152
15°	2155	2113	2111
20°	2116	2072	2070
25°	2078	2021	2021
30°	2030	1974	1957
35°	1984	1917	1889
40°	1927	1861	1825
45°	1870	1805	1760
50°	1809	1746	1684
55°	1745	1679	1617
60°	1673	1598	1539
65°	1597	1517	1448
70°	1500	1420	1353
75°	1364	1308	1276
80°	1211	1174	1114
85°	988	942	845

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1870 cd/sqm

TEST NUMBER: P931105

CATALOG NUMBER: DFN2DS-SQ4F0-080DS840-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	293.3	3.7
10°-20°	825.2	10.4
20°-30°	1212.7	15.3
30°-40°	1408.4	17.8
40°-50°	1406.7	17.7
50°-60°	1226.6	15.5
60°-70°	906.7	11.4
70°-80°	513.0	6.5
80°-90°	135.4	1.7
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°	2331.1	29.4
0°-40°	3739.5	47.2
0°-60°	6372.8	80.4
0°-90°	7927.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7927.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3116	3116	3116	3116	3116	
5°	3116	3104	3071	3095	3089	296
15°	2966	2948	2909	2921	2906	835
25°	2685	2661	2610	2616	2610	1235
35°	2316	2286	2238	2220	2205	1446
45°	1885	1864	1819	1786	1774	1455
55°	1426	1408	1372	1336	1321	1275
65°	962	944	914	887	872	951
75°	503	498	482	464	470	537
85°	123	120	117	108	105	144
90°	0	0	0	0	0	

TEST NUMBER: P931105

CATALOG NUMBER: DFN2DS-SQ4F0-080DS840-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3115.9	3115.9	3115.9	3115.9	3115.9
2.5°	3134.0	3119.1	3086.1	3115.9	3110.2
5°	3115.9	3104.2	3071.2	3095.0	3089.3
7.5°	3095.0	3077.2	3044.1	3068.3	3062.3
10°	3062.3	3041.2	3005.3	3029.1	3020.3
12.5°	3017.1	2999.3	2963.4	2978.3	2972.3
15°	2966.3	2948.4	2909.3	2921.4	2906.5
17.5°	2903.3	2885.5	2846.3	2861.4	2846.3
20°	2834.3	2816.5	2774.6	2783.5	2771.7
22.5°	2765.7	2738.6	2699.5	2699.5	2693.5
25°	2684.6	2660.8	2609.9	2615.6	2609.9
27.5°	2594.6	2573.7	2534.8	2525.9	2511.0
30°	2505.0	2480.8	2436.0	2427.1	2415.0
32.5°	2409.0	2391.2	2343.1	2325.0	2313.0
35°	2316.1	2286.3	2238.2	2220.1	2205.2
37.5°	2211.2	2184.2	2136.2	2115.2	2100.3
40°	2103.5	2079.3	2031.3	2004.6	1992.5
42.5°	1998.6	1974.4	1926.7	1896.5	1878.8
45°	1884.8	1863.8	1818.6	1785.9	1773.9
47.5°	1773.9	1752.9	1704.8	1671.8	1654.0
50°	1656.9	1641.9	1599.9	1558.0	1543.0
52.5°	1543.0	1522.0	1483.3	1450.2	1429.2
55°	1426.3	1408.2	1372.4	1336.4	1321.4
57.5°	1309.4	1294.5	1255.4	1219.4	1207.3
60°	1192.4	1180.7	1138.6	1105.6	1096.7
62.5°	1078.6	1057.7	1027.7	997.9	985.8
65°	962.0	943.8	913.9	886.9	872.0
67.5°	842.0	826.8	800.1	779.2	767.1
70°	731.1	719.0	692.1	671.1	659.3
72.5°	617.3	605.3	590.3	569.4	560.5
75°	503.2	497.5	482.3	464.5	470.5
77.5°	401.5	389.4	383.4	374.5	365.6
80°	299.8	296.6	290.6	281.7	275.6
82.5°	203.8	203.8	200.9	188.8	188.8
85°	122.7	119.8	117.0	107.8	104.9
87.5°	54.1	48.0	41.9	33.0	29.9
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931105

CATALOG NUMBER: DFN2DS-SQ4F0-080DS840-FLL

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	14.00	15.61	14.37	15.93	16.24	13.56	15.17	13.92	15.48	15.79
	3H	15.75	17.20	16.13	17.53	17.89	15.26	16.71	15.64	17.04	17.40
	4H	16.40	17.77	16.80	18.11	18.49	15.90	17.27	16.30	17.62	18.00
	6H	16.87	18.13	17.28	18.50	18.89	16.36	17.63	16.78	18.00	18.39
	8H	17.01	18.22	17.43	18.61	19.01	16.51	17.72	16.93	18.11	18.51
	12H	17.10	18.26	17.53	18.64	19.07	16.59	17.75	17.02	18.13	18.56
4H	2H	14.56	15.93	14.96	16.28	16.65	14.21	15.58	14.61	15.92	16.30
	3H	16.54	17.68	16.95	18.08	18.48	16.13	17.28	16.54	17.67	18.07
	4H	17.31	18.35	17.74	18.76	19.20	16.89	17.92	17.32	18.34	18.77
	6H	17.91	18.81	18.36	19.25	19.71	17.48	18.38	17.93	18.82	19.28
	8H	18.10	18.94	18.56	19.39	19.85	17.66	18.51	18.12	18.95	19.41
	12H	18.23	18.99	18.71	19.47	19.94	17.78	18.54	18.26	19.01	19.48
8H	4H	17.59	18.43	18.05	18.87	19.34	17.21	18.06	17.67	18.50	18.97
	6H	18.30	19.00	18.79	19.49	19.97	17.92	18.62	18.41	19.11	19.59
	8H	18.56	19.19	19.07	19.70	20.18	18.17	18.80	18.68	19.31	19.79
	12H	18.76	19.32	19.27	19.81	20.37	18.35	18.90	18.85	19.39	19.96
12H	4H	17.61	18.37	18.09	18.85	19.32	17.25	18.01	17.73	18.48	18.95
	6H	18.35	18.98	18.86	19.48	19.97	17.98	18.61	18.49	19.12	19.60
	8H	18.66	19.22	19.17	19.71	20.27	18.28	18.84	18.79	19.33	19.89