

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: P930025

Luminaire Tested: DFN2DS-4P4F0-080DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930025
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-4P4F0-080DS840-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

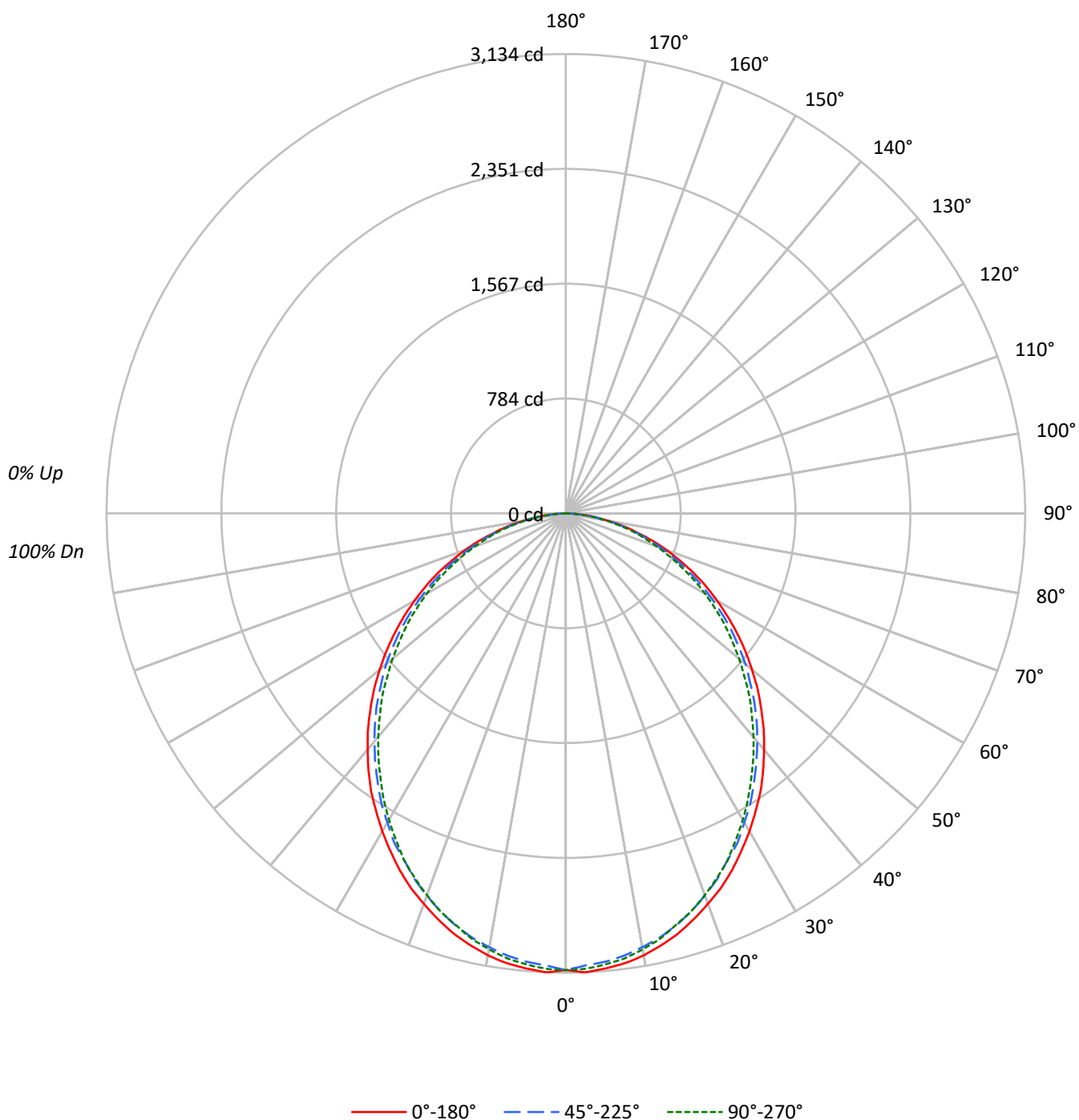
Lumens per Lamp: N/A
Luminaire Lumens: 7927.9 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 86.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
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	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°	2021	2021	2021
5°	2029	2000	2012
10°	2017	1980	1990
15°	1992	1954	1952
20°	1957	1916	1914
25°	1922	1868	1868
30°	1876	1825	1809
35°	1834	1773	1746
40°	1781	1720	1687
45°	1729	1668	1627
50°	1672	1615	1557
55°	1613	1552	1495
60°	1547	1477	1423
65°	1477	1403	1339
70°	1387	1313	1251
75°	1261	1209	1179
80°	1120	1086	1030
85°	913	871	781

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1729 cd/sqm

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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	

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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

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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	13.73	15.34	14.09	15.65	15.97	13.28	14.89	13.65	15.21	15.52
	3H	15.48	16.93	15.85	17.26	17.62	14.99	16.44	15.36	16.77	17.13
	4H	16.12	17.49	16.52	17.84	18.22	15.63	17.00	16.03	17.35	17.72
	6H	16.59	17.86	17.00	18.23	18.62	16.09	17.36	16.50	17.73	18.12
	8H	16.74	17.95	17.16	18.34	18.74	16.23	17.44	16.66	17.83	18.23
	12H	16.83	17.99	17.26	18.37	18.80	16.31	17.47	16.74	17.86	18.29
4H	2H	14.29	15.66	14.69	16.01	16.38	13.94	15.30	14.33	15.65	16.03
	3H	16.26	17.41	16.67	17.81	18.21	15.86	17.00	16.27	17.40	17.80
	4H	17.04	18.08	17.47	18.49	18.93	16.62	17.65	17.05	18.07	18.50
	6H	17.64	18.54	18.09	18.98	19.44	17.20	18.11	17.66	18.55	19.01
	8H	17.83	18.67	18.29	19.11	19.58	17.39	18.23	17.85	18.68	19.14
	12H	17.96	18.72	18.44	19.19	19.66	17.51	18.27	17.99	18.74	19.21
8H	4H	17.31	18.16	17.77	18.60	19.07	16.94	17.79	17.40	18.23	18.69
	6H	18.03	18.73	18.52	19.22	19.69	17.65	18.35	18.14	18.84	19.31
	8H	18.29	18.92	18.80	19.42	19.91	17.90	18.53	18.41	19.03	19.52
	12H	18.49	19.04	18.99	19.54	20.10	18.07	18.63	18.58	19.12	19.68
12H	4H	17.34	18.10	17.82	18.57	19.04	16.97	17.73	17.45	18.21	18.68
	6H	18.07	18.70	18.58	19.21	19.70	17.70	18.34	18.21	18.84	19.33
	8H	18.39	18.94	18.89	19.44	20.00	18.01	18.57	18.52	19.06	19.62

END OF REPORT