

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: P930382

Luminaire Tested: DFN2DS-HX4F0-110DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930382
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-HX4F0-110DS830-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

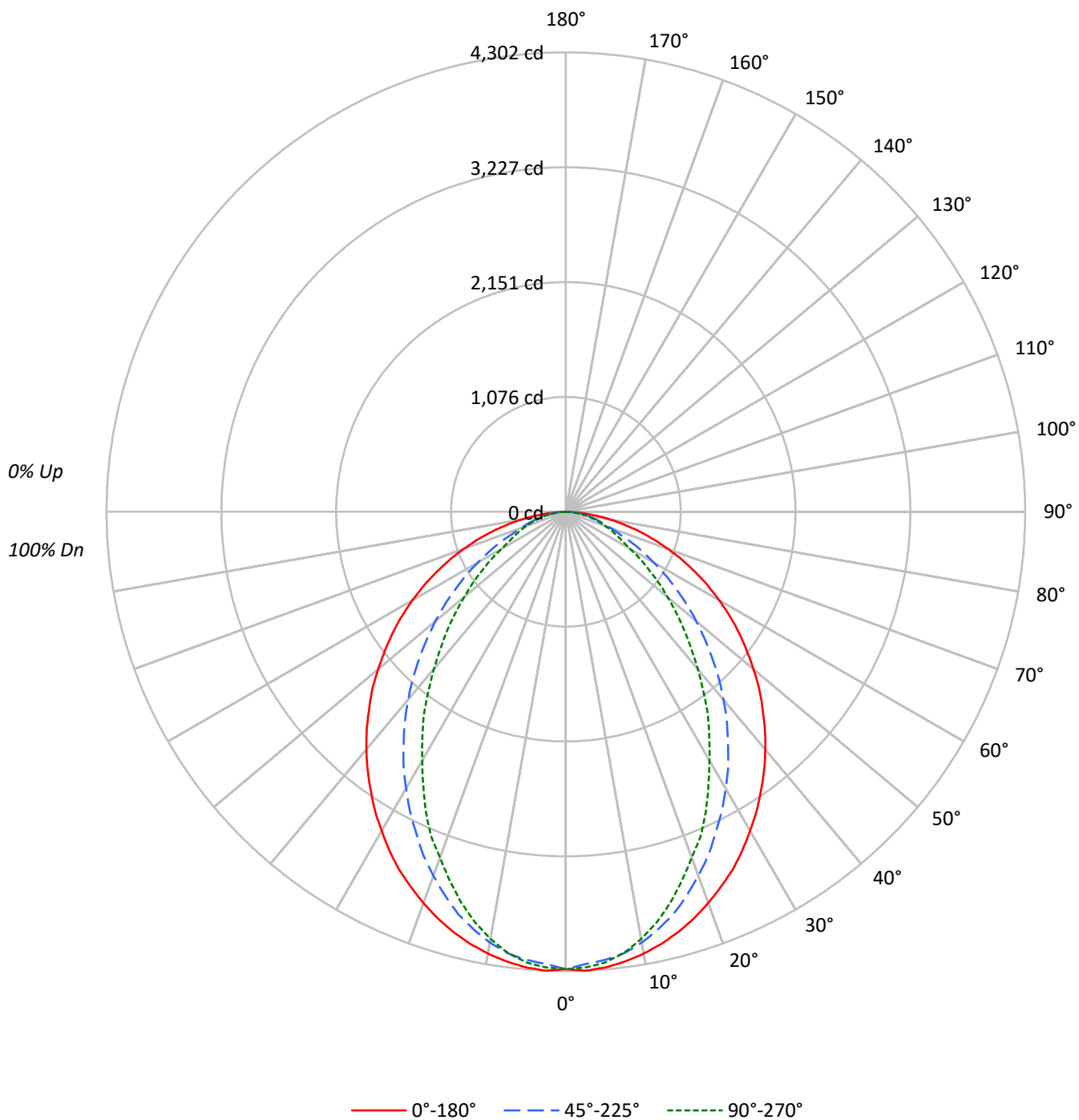
Lumens per Lamp: N/A
Luminaire Lumens: 8807.7 lumens
Efficiency: N/A
Efficacy: 75.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 117.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930382

CATALOG NUMBER: DFN2DS-HX4F0-110DS830-RLL

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°	3184	3184	3184
5°	3197	3144	3162
10°	3172	3093	3067
15°	3136	3001	2915
20°	3085	2870	2726
25°	3033	2722	2544
30°	2962	2569	2309
35°	2892	2403	2104
40°	2821	2231	1866
45°	2739	2038	1651
50°	2654	1843	1439
55°	2567	1633	1236
60°	2467	1412	1026
65°	2353	1187	934
70°	2216	977	859
75°	2048	891	802
80°	1808	796	731
85°	1420	628	628

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2739 cd/sqm

TEST NUMBER: P930382

CATALOG NUMBER: DFN2DS-HX4F0-110DS830-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	401.4	4.6
10°-20°	1101.8	12.5
20°-30°	1546.9	17.6
30°-40°	1686.3	19.1
40°-50°	1549.9	17.6
50°-60°	1217.2	13.8
60°-70°	792.3	9.0
70°-80°	407.8	4.6
80°-90°	104.1	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°	3050.2	34.6
0°-40°	4736.4	53.8
0°-60°	7503.5	85.2
0°-90°	8807.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8807.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4283	4283	4283	4283	4283	
5°	4283	4263	4213	4248	4236	406
15°	4073	4030	3899	3825	3787	1148
25°	3697	3573	3318	3159	3100	1700
35°	3186	2988	2647	2403	2318	1994
45°	2604	2345	1938	1662	1570	2011
55°	1980	1678	1260	1027	954	1770
65°	1337	1023	674	543	531	1326
75°	713	442	310	283	279	754
85°	166	85	74	74	74	200
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-HX4F0-110DS830-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4282.6	4282.6	4282.6	4282.6	4282.6
2.5°	4301.9	4282.6	4239.8	4278.9	4271.1
5°	4282.6	4263.3	4212.7	4247.7	4236.2
7.5°	4247.7	4224.6	4170.3	4185.6	4166.2
10°	4201.2	4174.0	4096.8	4084.8	4061.8
12.5°	4143.2	4108.3	4003.4	3980.3	3937.6
15°	4073.3	4030.5	3898.9	3825.4	3786.7
17.5°	3991.9	3929.8	3767.0	3681.8	3619.7
20°	3898.9	3821.2	3627.5	3530.9	3445.4
22.5°	3798.2	3708.9	3484.1	3352.5	3294.5
25°	3697.4	3573.3	3317.5	3158.8	3100.4
27.5°	3577.4	3445.4	3162.5	2980.3	2891.1
30°	3449.5	3301.9	2991.9	2794.4	2689.6
32.5°	3325.4	3146.8	2829.4	2596.7	2499.7
35°	3185.9	2988.1	2647.3	2403.0	2317.5
37.5°	3050.3	2836.8	2476.6	2208.9	2112.3
40°	2906.7	2674.4	2298.2	2023.0	1922.3
42.5°	2759.5	2511.6	2120.2	1833.1	1736.5
45°	2604.5	2344.6	1938.0	1662.4	1569.6
47.5°	2457.3	2182.2	1763.6	1488.1	1403.0
50°	2294.4	2019.4	1593.0	1325.3	1244.3
52.5°	2135.3	1844.6	1430.1	1174.4	1100.7
55°	1980.3	1678.1	1259.5	1027.2	953.6
57.5°	1821.6	1511.5	1108.5	891.5	829.3
60°	1658.8	1348.8	949.4	752.1	690.0
62.5°	1500.0	1190.0	813.8	627.9	597.0
65°	1337.2	1023.0	674.4	542.8	530.8
67.5°	1182.2	868.1	542.8	476.6	465.1
70°	1019.3	717.1	449.4	410.8	395.2
72.5°	864.3	577.4	375.9	345.0	337.1
75°	713.0	441.6	310.0	282.9	279.2
77.5°	562.1	313.8	244.3	228.6	220.8
80°	422.3	224.9	185.9	170.7	170.7
82.5°	294.4	151.3	127.9	120.1	120.1
85°	166.5	85.2	73.6	73.6	73.6
87.5°	62.1	30.8	30.8	27.1	27.1
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	15.26	16.78	15.62	17.09	17.41	11.22	12.74	11.58	13.05	13.37
	3H	17.02	18.39	17.40	18.72	19.08	12.48	13.85	12.86	14.18	14.54
	4H	17.69	18.97	18.09	19.32	19.70	12.99	14.27	13.39	14.62	14.99
	6H	18.18	19.36	18.59	19.73	20.12	13.37	14.55	13.78	14.92	15.31
	8H	18.34	19.47	18.77	19.86	20.26	13.49	14.62	13.92	15.01	15.41
	12H	18.45	19.53	18.88	19.91	20.34	13.57	14.65	14.00	15.03	15.46
4H	2H	15.36	16.64	15.76	16.99	17.37	11.92	13.20	12.31	13.54	13.92
	3H	17.30	18.36	17.71	18.76	19.16	13.36	14.42	13.77	14.82	15.22
	4H	18.05	19.00	18.48	19.42	19.86	13.96	14.91	14.39	15.33	15.77
	6H	18.64	19.47	19.09	19.91	20.37	14.45	15.28	14.90	15.72	16.18
	8H	18.85	19.63	19.32	20.07	20.54	14.61	15.39	15.07	15.83	16.30
	12H	19.01	19.70	19.49	20.18	20.65	14.73	15.42	15.21	15.90	16.37
8H	4H	18.07	18.85	18.53	19.29	19.76	14.31	15.09	14.77	15.53	16.00
	6H	18.71	19.35	19.20	19.84	20.32	14.90	15.54	15.39	16.03	16.51
	8H	18.96	19.53	19.47	20.04	20.53	15.12	15.70	15.63	16.21	16.69
	12H	19.16	19.67	19.67	20.16	20.73	15.30	15.81	15.81	16.30	16.87
12H	4H	18.05	18.75	18.54	19.23	19.70	14.35	15.05	14.84	15.53	16.00
	6H	18.69	19.27	19.20	19.78	20.26	14.96	15.54	15.48	16.05	16.54
	8H	18.97	19.48	19.48	19.97	20.54	15.23	15.74	15.74	16.24	16.80

END OF REPORT