

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: P930346

Luminaire Tested: DFN2DS-HX4F0-090DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930346
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-HX4F0-090DS830-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

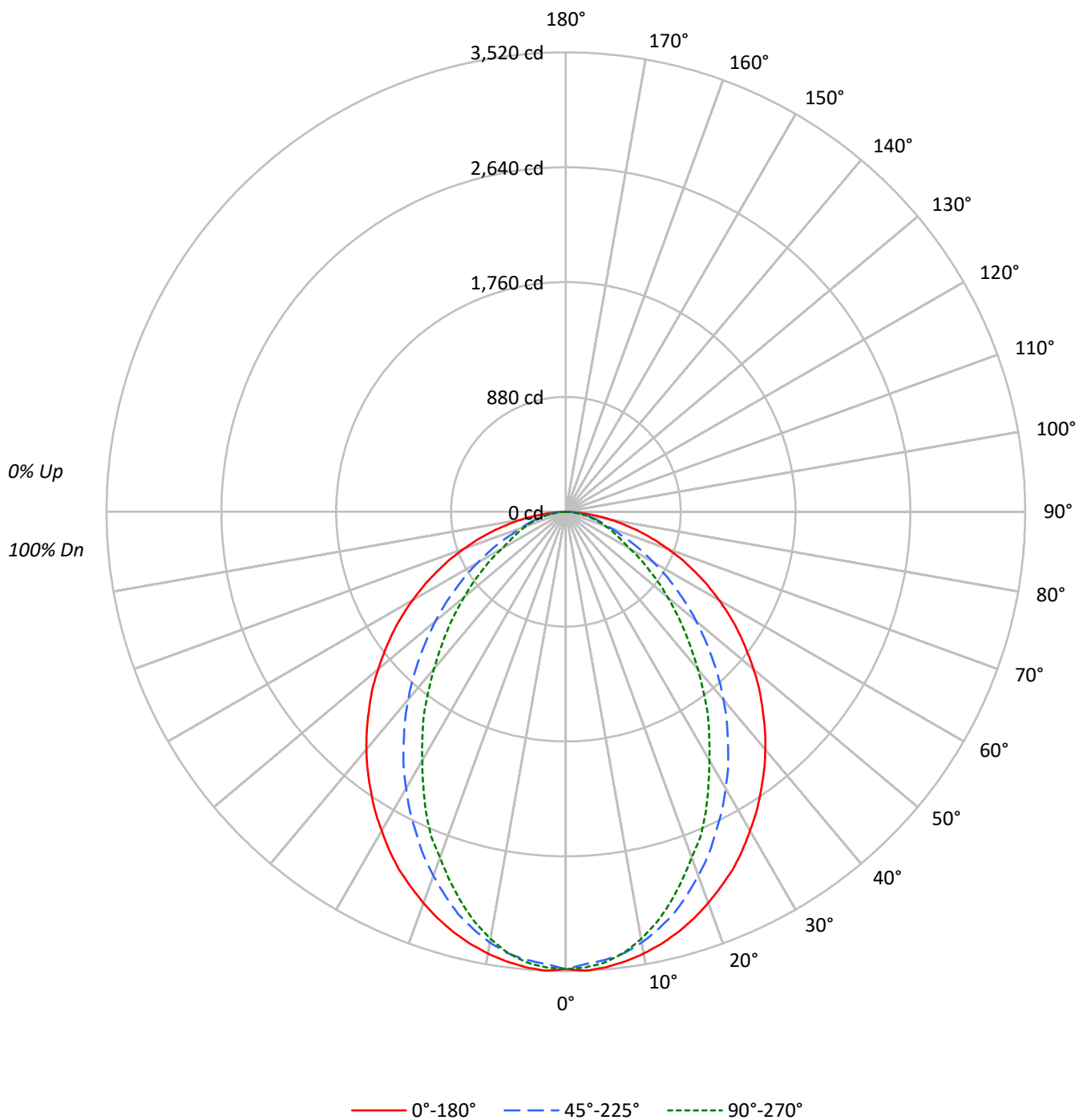
Lumens per Lamp: N/A
Luminaire Lumens: 7206.4 lumens
Efficiency: N/A
Efficacy: 77.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 93.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930346

CATALOG NUMBER: DFN2DS-HX4F0-090DS830-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°	2605	2605	2605
5°	2615	2573	2587
10°	2595	2531	2509
15°	2565	2456	2385
20°	2524	2349	2231
25°	2482	2227	2081
30°	2423	2102	1889
35°	2366	1966	1721
40°	2309	1825	1527
45°	2241	1667	1350
50°	2172	1508	1178
55°	2100	1336	1011
60°	2018	1155	839
65°	1925	971	764
70°	1813	800	703
75°	1676	729	656
80°	1479	651	598
85°	1162	514	514

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2241 cd/sqm

TEST NUMBER: P930346

CATALOG NUMBER: DFN2DS-HX4F0-090DS830-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	328.4	4.6
10°-20°	901.5	12.5
20°-30°	1265.7	17.6
30°-40°	1379.7	19.1
40°-50°	1268.1	17.6
50°-60°	995.9	13.8
60°-70°	648.2	9.0
70°-80°	333.7	4.6
80°-90°	85.2	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°	2495.6	34.6
0°-40°	3875.3	53.8
0°-60°	6139.3	85.2
0°-90°	7206.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7206.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3504	3504	3504	3504	3504	
5°	3504	3488	3447	3475	3466	332
15°	3333	3298	3190	3130	3098	939
25°	3025	2924	2714	2584	2537	1391
35°	2607	2445	2166	1966	1896	1632
45°	2131	1918	1586	1360	1284	1646
55°	1620	1373	1030	840	780	1448
65°	1094	837	552	444	434	1085
75°	583	361	254	231	228	617
85°	136	70	60	60	60	163
90°	0	0	0	0	0	

TEST NUMBER: P930346

CATALOG NUMBER: DFN2DS-HX4F0-090DS830-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3504.0	3504.0	3504.0	3504.0	3504.0
2.5°	3519.8	3504.0	3468.9	3500.9	3494.5
5°	3504.0	3488.1	3446.8	3475.3	3465.9
7.5°	3475.3	3456.5	3412.1	3424.5	3408.7
10°	3437.4	3415.1	3351.9	3342.1	3323.3
12.5°	3389.9	3361.3	3275.5	3256.7	3221.6
15°	3332.7	3297.8	3190.1	3129.8	3098.2
17.5°	3266.1	3215.3	3082.0	3012.4	2961.6
20°	3190.1	3126.5	2968.0	2888.9	2818.9
22.5°	3107.7	3034.7	2850.6	2742.9	2695.5
25°	3025.2	2923.6	2714.4	2584.5	2536.7
27.5°	2927.0	2818.9	2587.5	2438.5	2365.5
30°	2822.3	2701.6	2447.9	2286.4	2200.6
32.5°	2720.7	2574.7	2315.0	2124.6	2045.2
35°	2606.7	2444.9	2165.9	1966.1	1896.2
37.5°	2495.6	2321.1	2026.3	1807.3	1728.3
40°	2378.3	2188.2	1880.3	1655.3	1572.9
42.5°	2257.8	2055.0	1734.6	1499.9	1420.7
45°	2131.0	1918.4	1585.6	1360.2	1284.1
47.5°	2010.5	1785.5	1443.0	1217.5	1147.9
50°	1877.3	1652.2	1303.4	1084.3	1018.0
52.5°	1747.1	1509.3	1170.2	960.8	900.6
55°	1620.2	1373.0	1030.5	840.5	780.2
57.5°	1490.4	1236.8	907.1	729.4	678.6
60°	1357.1	1103.5	776.9	615.3	564.5
62.5°	1227.3	973.7	665.8	513.8	488.5
65°	1094.0	837.1	551.7	444.1	434.4
67.5°	967.2	710.2	444.1	389.9	380.5
70°	834.0	586.8	367.8	336.1	323.3
72.5°	707.2	472.3	307.5	282.2	275.9
75°	583.4	361.4	253.7	231.4	228.4
77.5°	459.9	256.7	199.8	187.1	180.7
80°	345.5	184.1	152.0	139.6	139.6
82.5°	240.9	123.8	104.7	98.3	98.3
85°	136.2	69.6	60.2	60.2	60.2
87.5°	50.8	25.2	25.2	22.2	22.2
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930346

CATALOG NUMBER: DFN2DS-HX4F0-090DS830-RLL

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	14.56	16.08	14.93	16.40	16.71	10.52	12.04	10.89	12.36	12.67
	3H	16.33	17.69	16.70	18.02	18.38	11.79	13.15	12.17	13.48	13.84
	4H	16.99	18.27	17.39	18.62	19.00	12.29	13.57	12.69	13.92	14.30
	6H	17.48	18.67	17.89	19.03	19.42	12.67	13.85	13.08	14.22	14.61
	8H	17.65	18.77	18.07	19.16	19.56	12.79	13.92	13.22	14.31	14.71
	12H	17.75	18.83	18.18	19.21	19.64	12.88	13.95	13.31	14.34	14.77
4H	2H	14.67	15.95	15.07	16.30	16.67	11.22	12.50	11.62	12.85	13.23
	3H	16.60	17.66	17.01	18.06	18.46	12.66	13.72	13.07	14.12	14.52
	4H	17.35	18.31	17.78	18.72	19.16	13.26	14.22	13.69	14.63	15.07
	6H	17.94	18.77	18.40	19.21	19.67	13.75	14.58	14.21	15.02	15.48
	8H	18.15	18.93	18.62	19.38	19.84	13.91	14.69	14.37	15.13	15.60
	12H	18.31	19.00	18.79	19.48	19.95	14.03	14.72	14.51	15.20	15.67
8H	4H	17.37	18.15	17.84	18.59	19.06	13.61	14.39	14.08	14.84	15.30
	6H	18.01	18.65	18.51	19.14	19.62	14.20	14.84	14.70	15.33	15.81
	8H	18.26	18.84	18.77	19.35	19.84	14.42	15.00	14.94	15.51	16.00
	12H	18.46	18.97	18.97	19.47	20.03	14.60	15.11	15.11	15.60	16.17
12H	4H	17.36	18.05	17.84	18.53	19.00	13.66	14.35	14.14	14.83	15.30
	6H	17.99	18.57	18.50	19.08	19.57	14.26	14.84	14.78	15.35	15.84
	8H	18.28	18.79	18.79	19.28	19.84	14.54	15.05	15.05	15.54	16.10