

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: P930364

Luminaire Tested: DFN2DS-HX4F0-100DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930364
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-HX4F0-100DS830-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

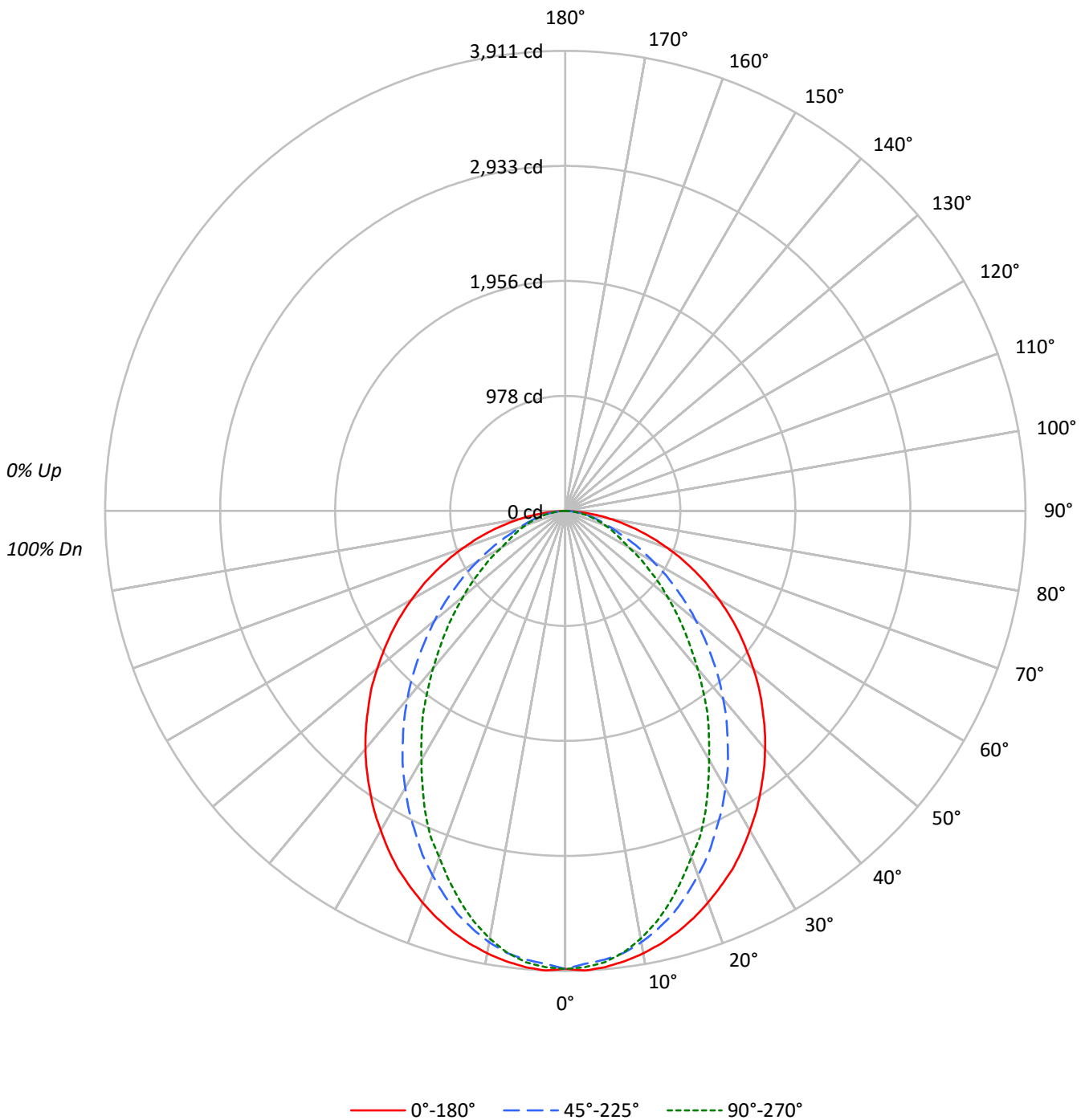
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8007.0 lumens
Efficiency: N/A
Efficacy: 76.8 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): 104.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930364
CATALOG NUMBER: DFN2DS-HX4F0-100DS830-RL

Luminous Intensity Polar Plot





TEST NUMBER: P930364

CATALOG NUMBER: DFN2DS-HX4F0-100DS830-RL

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°	2895	2895	2895
5°	2906	2859	2874
10°	2884	2812	2788
15°	2851	2729	2650
20°	2805	2609	2478
25°	2758	2474	2312
30°	2692	2335	2099
35°	2629	2185	1912
40°	2565	2028	1696
45°	2490	1853	1500
50°	2413	1675	1309
55°	2334	1484	1124
60°	2243	1284	933
65°	2139	1079	849
70°	2014	888	781
75°	1862	810	729
80°	1644	724	664
85°	1292	571	571

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2490 cd/sqm



TEST NUMBER: P930364

CATALOG NUMBER: DFN2DS-HX4F0-100DS830-RL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	364.9	4.6
10°-20°	1001.7	12.5
20°-30°	1406.3	17.6
30°-40°	1533.0	19.1
40°-50°	1409.0	17.6
50°-60°	1106.5	13.8
60°-70°	720.2	9.0
70°-80°	370.7	4.6
80°-90°	94.7	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°	2772.9	34.6
0°-40°	4305.8	53.8
0°-60°	6821.3	85.2
0°-90°	8007.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8007.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3893	3893	3893	3893	3893	
5°	3893	3876	3830	3862	3851	369
15°	3703	3664	3544	3478	3442	1043
25°	3361	3248	3016	2872	2819	1546
35°	2896	2716	2407	2185	2107	1813
45°	2368	2132	1762	1511	1427	1829
55°	1800	1526	1145	934	867	1609
65°	1216	930	613	493	483	1205
75°	648	402	282	257	254	686
85°	151	77	67	67	67	181
90°	0	0	0	0	0	



TEST NUMBER: P930364

CATALOG NUMBER: DFN2DS-HX4F0-100DS830-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3893.3	3893.3	3893.3	3893.3	3893.3
2.5°	3910.8	3893.3	3854.4	3889.9	3882.8
5°	3893.3	3875.7	3829.7	3861.5	3851.0
7.5°	3861.5	3840.5	3791.2	3805.0	3787.5
10°	3819.2	3794.6	3724.3	3713.5	3692.5
12.5°	3766.6	3734.7	3639.4	3618.5	3579.6
15°	3703.0	3664.1	3544.5	3477.6	3442.4
17.5°	3629.0	3572.5	3424.5	3347.1	3290.7
20°	3544.5	3473.8	3297.8	3210.0	3132.1
22.5°	3452.9	3371.8	3167.3	3047.7	2995.0
25°	3361.3	3248.5	3015.9	2871.6	2818.6
27.5°	3252.2	3132.1	2875.0	2709.4	2628.3
30°	3135.9	3001.7	2719.8	2540.5	2445.1
32.5°	3023.1	2860.8	2572.2	2360.7	2272.4
35°	2896.3	2716.5	2406.6	2184.6	2106.8
37.5°	2773.0	2578.9	2251.5	2008.2	1920.3
40°	2642.5	2431.3	2089.3	1839.2	1747.6
42.5°	2508.6	2283.2	1927.4	1666.5	1578.6
45°	2367.7	2131.5	1761.8	1511.3	1426.8
47.5°	2234.0	1983.9	1603.3	1352.8	1275.5
50°	2085.9	1835.8	1448.1	1204.8	1131.2
52.5°	1941.2	1676.9	1300.1	1067.6	1000.7
55°	1800.3	1525.6	1145.0	933.8	866.8
57.5°	1656.0	1374.1	1007.8	810.4	754.0
60°	1508.0	1226.1	863.2	683.7	627.3
62.5°	1363.6	1081.8	739.8	570.9	542.8
65°	1215.7	930.0	613.1	493.4	482.6
67.5°	1074.7	789.1	493.4	433.2	422.8
70°	926.6	652.0	408.5	373.4	359.3
72.5°	785.7	524.8	341.7	313.6	306.5
75°	648.2	401.5	281.8	257.2	253.8
77.5°	511.0	285.2	222.0	207.8	200.7
80°	383.9	204.5	169.0	155.1	155.1
82.5°	267.6	137.5	116.2	109.2	109.2
85°	151.4	77.3	66.9	66.9	66.9
87.5°	56.4	28.1	28.1	24.7	24.7
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P930364
 CATALOG NUMBER: DFN2DS-HX4F0-100DS830-RL

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	14.93	16.45	15.29	16.76	17.08	10.89	12.41	11.25	12.72	13.04
	3H	16.69	18.06	17.07	18.39	18.75	12.15	13.52	12.53	13.85	14.21
	4H	17.36	18.64	17.76	18.99	19.37	12.66	13.94	13.05	14.28	14.66
	6H	17.85	19.03	18.26	19.40	19.79	13.04	14.22	13.45	14.59	14.98
	8H	18.01	19.14	18.44	19.53	19.93	13.16	14.29	13.59	14.68	15.08
	12H	18.12	19.19	18.55	19.58	20.01	13.24	14.32	13.67	14.70	15.13
4H	2H	15.03	16.31	15.43	16.66	17.04	11.58	12.86	11.98	13.21	13.59
	3H	16.97	18.03	17.38	18.43	18.83	13.03	14.09	13.44	14.49	14.89
	4H	17.71	18.67	18.15	19.09	19.53	13.63	14.58	14.06	15.00	15.44
	6H	18.31	19.14	18.76	19.58	20.04	14.11	14.95	14.57	15.39	15.85
	8H	18.52	19.30	18.98	19.74	20.21	14.28	15.05	14.74	15.50	15.97
	12H	18.67	19.37	19.16	19.85	20.32	14.39	15.09	14.88	15.57	16.04
8H	4H	17.74	18.52	18.20	18.96	19.43	13.98	14.76	14.44	15.20	15.67
	6H	18.38	19.02	18.87	19.51	19.99	14.57	15.21	15.06	15.70	16.18
	8H	18.63	19.20	19.14	19.71	20.20	14.79	15.36	15.30	15.87	16.36
	12H	18.83	19.34	19.34	19.83	20.40	14.97	15.48	15.48	15.97	16.53
12H	4H	17.72	18.42	18.21	18.90	19.37	14.02	14.72	14.51	15.20	15.67
	6H	18.36	18.93	18.87	19.44	19.93	14.63	15.21	15.14	15.72	16.21
	8H	18.64	19.15	19.15	19.64	20.21	14.90	15.41	15.41	15.91	16.47