

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: P930238

Luminaire Tested: DFN2DS-HX3F0-090DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930238
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-HX3F0-090DS830-RLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

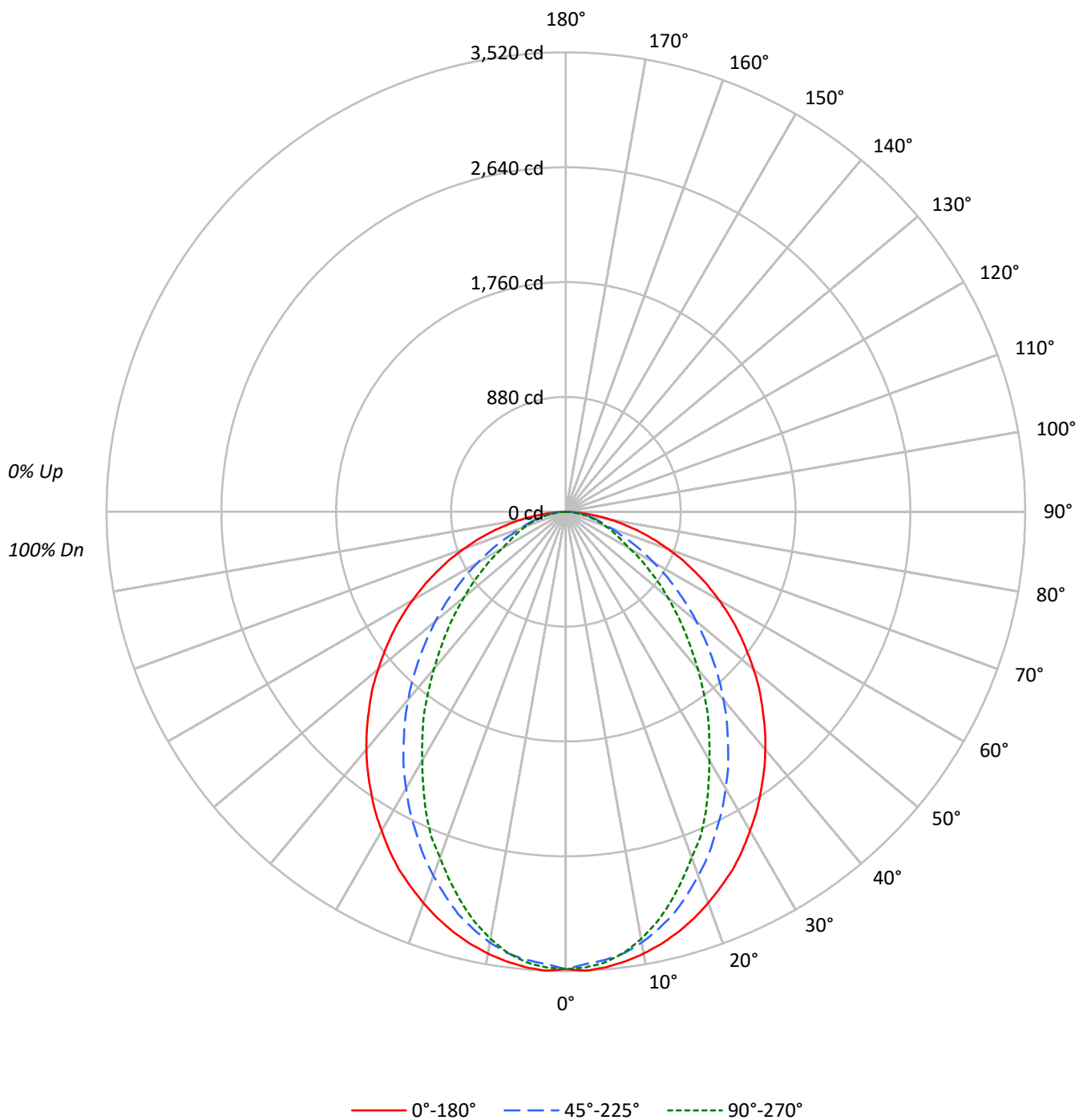
Lumens per Lamp: N/A
Luminaire Lumens: 7206.4 lumens
Efficiency: N/A
Efficacy: 74.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.28' x L: 2.84' x H: 0')
CIE Type: Direct

Input Watts (W): 97.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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	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°	4059	4059	4059
5°	4074	4008	4030
10°	4043	3943	3909
15°	3997	3826	3715
20°	3932	3659	3475
25°	3867	3469	3242
30°	3775	3274	2943
35°	3686	3063	2681
40°	3596	2843	2378
45°	3491	2597	2104
50°	3383	2349	1835
55°	3272	2081	1576
60°	3144	1800	1308
65°	2999	1512	1191
70°	2825	1246	1095
75°	2611	1135	1022
80°	2305	1014	931
85°	1810	800	800

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3491 cd/sqm

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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	

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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

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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	16.10	17.62	16.47	17.94	18.25	12.06	13.58	12.43	13.90	14.21
	3H	17.87	19.23	18.25	19.56	19.92	13.33	14.69	13.71	15.02	15.38
	4H	18.53	19.81	18.93	20.16	20.54	13.83	15.11	14.23	15.46	15.84
	6H	19.02	20.21	19.43	20.57	20.96	14.21	15.39	14.62	15.76	16.15
	8H	19.19	20.31	19.61	20.70	21.11	14.33	15.46	14.76	15.85	16.25
	12H	19.29	20.37	19.72	20.75	21.18	14.42	15.49	14.85	15.88	16.31
4H	2H	16.21	17.49	16.61	17.84	18.21	12.76	14.04	13.16	14.39	14.77
	3H	18.14	19.20	18.55	19.60	20.00	14.20	15.26	14.61	15.66	16.06
	4H	18.89	19.85	19.32	20.26	20.70	14.80	15.76	15.23	16.17	16.61
	6H	19.48	20.31	19.94	20.76	21.21	15.29	16.12	15.75	16.56	17.02
	8H	19.69	20.47	20.16	20.92	21.38	15.45	16.23	15.91	16.67	17.14
	12H	19.85	20.54	20.33	21.02	21.49	15.57	16.26	16.05	16.74	17.21
8H	4H	18.91	19.69	19.38	20.13	20.60	15.15	15.93	15.62	16.38	16.84
	6H	19.55	20.19	20.05	20.68	21.16	15.74	16.38	16.24	16.87	17.35
	8H	19.80	20.38	20.31	20.89	21.38	15.96	16.54	16.48	17.05	17.54
	12H	20.00	20.51	20.51	21.01	21.57	16.14	16.65	16.65	17.14	17.71
12H	4H	18.90	19.59	19.38	20.07	20.54	15.20	15.89	15.68	16.37	16.84
	6H	19.53	20.11	20.05	20.62	21.11	15.80	16.38	16.32	16.89	17.38
	8H	19.82	20.33	20.33	20.82	21.38	16.08	16.59	16.59	17.08	17.64