

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: P931155

Luminaire Tested: DFN2DS-SQ4F0-110DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931155
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-SQ4F0-110DS830-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

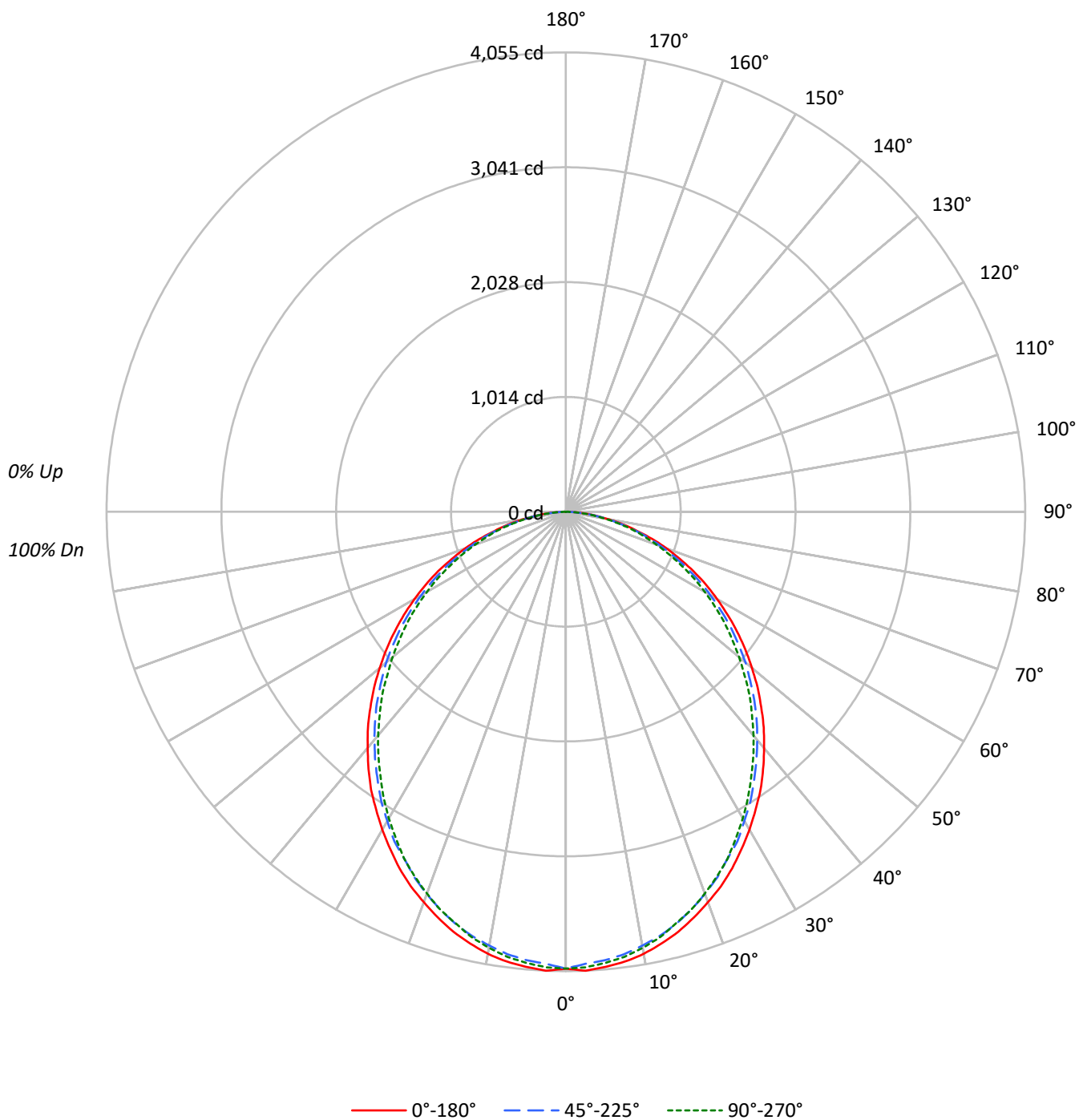
Lumens per Lamp: N/A
Luminaire Lumens: 10258.4 lumens
Efficiency: N/A
Efficacy: 90.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 113
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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°	2829	2829	2829
5°	2840	2799	2816
10°	2823	2771	2785
15°	2788	2735	2732
20°	2739	2681	2678
25°	2689	2615	2615
30°	2626	2554	2532
35°	2567	2481	2444
40°	2493	2408	2362
45°	2420	2335	2278
50°	2340	2260	2180
55°	2258	2172	2092
60°	2165	2068	1991
65°	2067	1963	1873
70°	1941	1837	1750
75°	1765	1692	1650
80°	1567	1519	1441
85°	1278	1219	1092

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2420 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	379.5	3.7
10°-20°	1067.7	10.4
20°-30°	1569.1	15.3
30°-40°	1822.4	17.8
40°-50°	1820.2	17.7
50°-60°	1587.1	15.5
60°-70°	1173.3	11.4
70°-80°	663.8	6.5
80°-90°	175.2	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°	3016.3	29.4
0°-40°	4838.8	47.2
0°-60°	8246.1	80.4
0°-90°	10258.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10258.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4032	4032	4032	4032	4032	
5°	4032	4017	3974	4005	3997	383
15°	3838	3815	3764	3780	3761	1081
25°	3474	3443	3377	3384	3377	1598
35°	2997	2958	2896	2873	2853	1872
45°	2439	2412	2353	2311	2295	1882
55°	1846	1822	1776	1729	1710	1650
65°	1245	1221	1183	1148	1128	1231
75°	651	644	624	601	609	695
85°	159	155	151	139	136	187
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4031.9	4031.9	4031.9	4031.9	4031.9
2.5°	4055.3	4036.0	3993.2	4031.9	4024.5
5°	4031.9	4016.7	3973.9	4004.7	3997.4
7.5°	4004.7	3981.7	3939.0	3970.2	3962.4
10°	3962.4	3935.2	3888.8	3919.6	3908.1
12.5°	3904.0	3880.9	3834.5	3853.8	3846.0
15°	3838.2	3815.1	3764.5	3780.2	3760.8
17.5°	3756.7	3733.7	3683.1	3702.4	3683.1
20°	3667.5	3644.4	3590.2	3601.6	3586.5
22.5°	3578.7	3543.6	3493.0	3493.0	3485.2
25°	3473.7	3442.9	3377.1	3384.5	3377.1
27.5°	3357.3	3330.2	3279.9	3268.5	3249.1
30°	3241.3	3210.1	3152.0	3140.5	3124.9
32.5°	3117.1	3094.1	3031.9	3008.5	2992.8
35°	2997.0	2958.4	2896.2	2872.7	2853.4
37.5°	2861.2	2826.3	2764.2	2737.0	2717.7
40°	2721.8	2690.5	2628.5	2593.9	2578.3
42.5°	2586.1	2554.8	2493.1	2454.0	2431.0
45°	2438.8	2411.6	2353.2	2310.9	2295.3
47.5°	2295.3	2268.1	2206.0	2163.2	2140.1
50°	2143.9	2124.6	2070.2	2016.0	1996.7
52.5°	1996.7	1969.4	1919.3	1876.5	1849.3
55°	1845.7	1822.2	1775.8	1729.2	1709.9
57.5°	1694.3	1675.0	1624.4	1577.8	1562.2
60°	1542.9	1527.7	1473.4	1430.6	1419.1
62.5°	1395.7	1368.5	1329.8	1291.2	1275.6
65°	1244.7	1221.2	1182.6	1147.6	1128.3
67.5°	1089.6	1069.9	1035.4	1008.2	992.6
70°	946.1	930.4	895.5	868.3	853.1
72.5°	798.8	783.2	763.9	736.7	725.2
75°	651.1	643.8	624.0	601.0	608.8
77.5°	519.5	503.9	496.1	484.6	473.1
80°	387.9	383.8	376.0	364.5	356.6
82.5°	263.7	263.7	260.0	244.4	244.4
85°	158.8	155.1	151.4	139.4	135.7
87.5°	69.9	62.1	54.3	42.8	38.6
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	14.90	16.51	15.26	16.82	17.13	14.45	16.06	14.82	16.38	16.69
	3H	16.65	18.10	17.02	18.43	18.79	16.15	17.61	16.53	17.94	18.30
	4H	17.29	18.66	17.69	19.01	19.39	16.80	18.17	17.20	18.51	18.89
	6H	17.76	19.03	18.17	19.39	19.79	17.26	18.53	17.67	18.89	19.28
	8H	17.90	19.12	18.33	19.50	19.90	17.40	18.61	17.83	19.00	19.40
	12H	17.99	19.15	18.42	19.54	19.97	17.48	18.64	17.91	19.02	19.45
4H	2H	15.46	16.83	15.85	17.17	17.55	15.10	16.47	15.50	16.82	17.20
	3H	17.43	18.58	17.84	18.98	19.38	17.02	18.17	17.43	18.57	18.97
	4H	18.21	19.24	18.64	19.66	20.09	17.78	18.82	18.22	19.23	19.67
	6H	18.80	19.71	19.26	20.15	20.61	18.37	19.28	18.83	19.72	20.17
	8H	18.99	19.84	19.45	20.28	20.75	18.56	19.40	19.02	19.84	20.31
	12H	19.13	19.89	19.61	20.36	20.83	18.67	19.43	19.15	19.91	20.38
8H	4H	18.48	19.33	18.94	19.77	20.24	18.11	18.95	18.57	19.40	19.86
	6H	19.20	19.90	19.69	20.39	20.86	18.81	19.52	19.31	20.01	20.48
	8H	19.45	20.09	19.96	20.59	21.08	19.06	19.69	19.57	20.20	20.69
	12H	19.65	20.21	20.16	20.70	21.26	19.24	19.80	19.75	20.29	20.85
12H	4H	18.51	19.27	18.99	19.74	20.21	18.14	18.90	18.62	19.38	19.85
	6H	19.24	19.87	19.75	20.38	20.87	18.87	19.50	19.38	20.01	20.50
	8H	19.55	20.11	20.06	20.60	21.16	19.18	19.73	19.68	20.23	20.79