

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: P931086

Luminaire Tested: DFN2DS-SQ4F0-070DS835-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931086
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-SQ4F0-070DS835-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

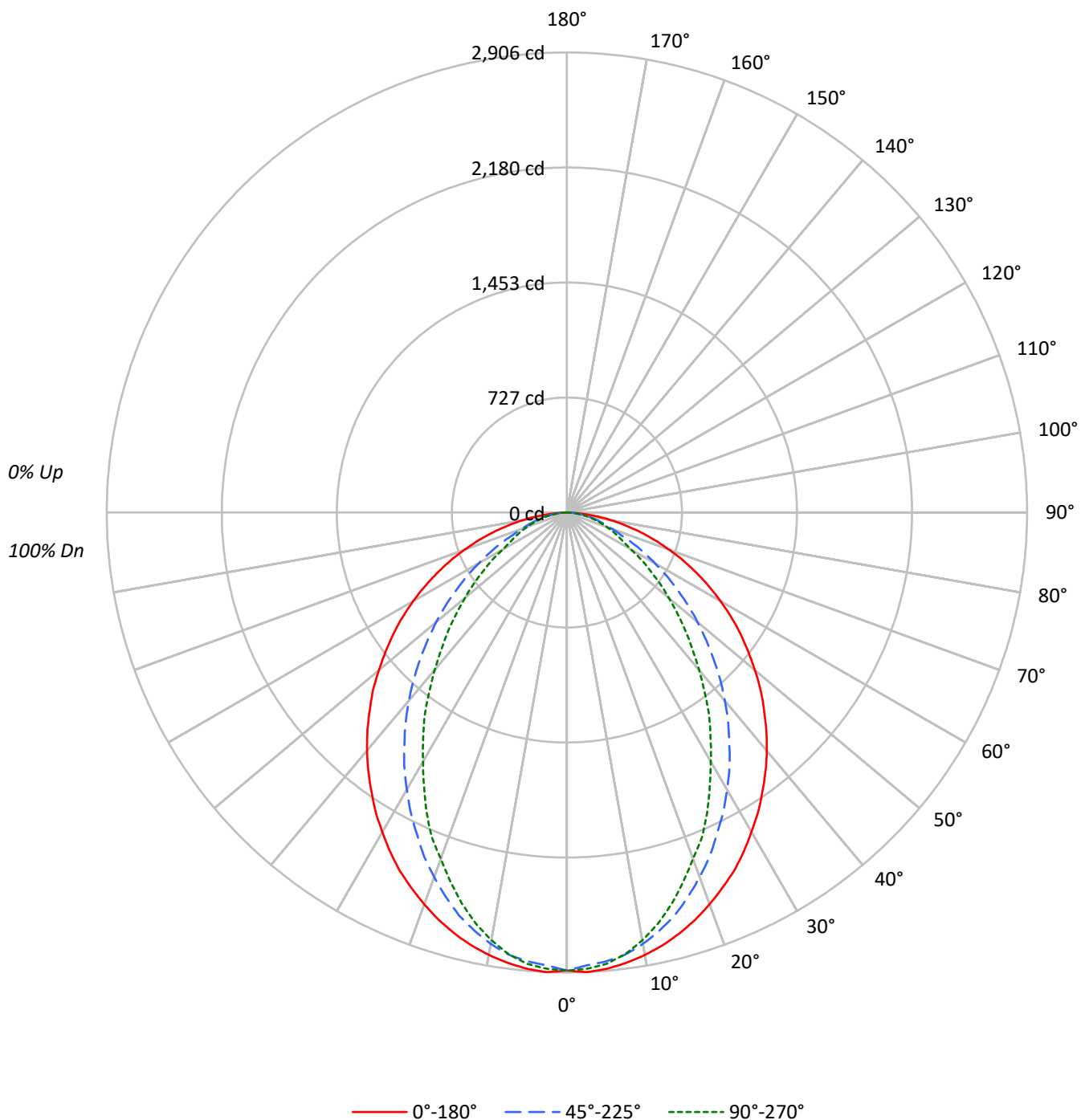
Lumens per Lamp: N/A
Luminaire Lumens: 5950.0 lumens
Efficiency: N/A
Efficacy: 86.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 69.2
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: P931086

CATALOG NUMBER: DFN2DS-SQ4F0-070DS835-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°	2030	2030	2030
5°	2038	2005	2016
10°	2022	1972	1955
15°	1999	1913	1858
20°	1967	1830	1738
25°	1934	1735	1622
30°	1888	1638	1472
35°	1844	1532	1341
40°	1799	1422	1189
45°	1746	1299	1052
50°	1692	1175	918
55°	1637	1041	788
60°	1573	900	654
65°	1500	756	595
70°	1413	623	548
75°	1306	568	511
80°	1153	508	466
85°	906	400	400

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1746 cd/sqm

TEST NUMBER: P931086

CATALOG NUMBER: DFN2DS-SQ4F0-070DS835-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.1	4.6
10°-20°	744.3	12.5
20°-30°	1045.0	17.6
30°-40°	1139.2	19.1
40°-50°	1047.0	17.6
50°-60°	822.3	13.8
60°-70°	535.2	9.0
70°-80°	275.5	4.6
80°-90°	70.3	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°	2060.5	34.6
0°-40°	3199.7	53.8
0°-60°	5068.9	85.2
0°-90°	5950.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5950.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2893	2893	2893	2893	2893	
5°	2893	2880	2846	2870	2862	274
15°	2752	2723	2634	2584	2558	775
25°	2498	2414	2241	2134	2094	1149
35°	2152	2019	1788	1623	1566	1347
45°	1760	1584	1309	1123	1060	1359
55°	1338	1134	851	694	644	1195
65°	903	691	456	367	359	896
75°	482	298	209	191	189	509
85°	112	58	50	50	50	135
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-SQ4F0-070DS835-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2893.1	2893.1	2893.1	2893.1	2893.1
2.5°	2906.1	2893.1	2864.2	2890.6	2885.3
5°	2893.1	2880.0	2845.9	2869.5	2861.7
7.5°	2869.5	2853.9	2817.3	2827.5	2814.5
10°	2838.1	2819.8	2767.5	2759.5	2743.9
12.5°	2798.9	2775.3	2704.5	2688.9	2660.0
15°	2751.7	2722.8	2633.9	2584.2	2558.1
17.5°	2696.7	2654.8	2544.8	2487.2	2445.3
20°	2633.9	2581.4	2450.6	2385.3	2327.5
22.5°	2565.9	2505.6	2353.6	2264.7	2225.6
25°	2497.8	2413.9	2241.1	2133.9	2094.5
27.5°	2416.7	2327.5	2136.4	2013.4	1953.1
30°	2330.3	2230.6	2021.1	1887.8	1817.0
32.5°	2246.4	2125.9	1911.4	1754.2	1688.6
35°	2152.2	2018.6	1788.4	1623.4	1565.6
37.5°	2060.6	1916.4	1673.1	1492.2	1427.0
40°	1963.6	1806.7	1552.5	1366.7	1298.6
42.5°	1864.2	1696.7	1432.2	1238.3	1173.1
45°	1759.5	1583.9	1309.2	1123.1	1060.3
47.5°	1660.0	1474.2	1191.4	1005.3	947.8
50°	1550.0	1364.2	1076.1	895.3	840.6
52.5°	1442.5	1246.1	966.1	793.3	743.6
55°	1337.8	1133.6	850.8	693.9	644.2
57.5°	1230.6	1021.1	748.9	602.2	560.3
60°	1120.6	911.1	641.4	508.1	466.1
62.5°	1013.3	803.9	549.7	424.2	403.3
65°	903.3	691.1	455.6	366.7	358.6
67.5°	798.6	586.4	366.7	321.9	314.2
70°	688.6	484.4	303.6	277.5	266.9
72.5°	583.9	390.0	253.9	233.1	227.8
75°	481.7	298.3	209.4	191.1	188.6
77.5°	379.7	211.9	165.0	154.4	149.2
80°	285.3	151.9	125.6	115.3	115.3
82.5°	198.9	102.2	86.4	81.1	81.1
85°	112.5	57.5	49.7	49.7	49.7
87.5°	41.9	20.8	20.8	18.3	18.3
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	13.69	15.22	14.06	15.53	15.84	9.66	11.18	10.02	11.49	11.80
	3H	15.46	16.83	15.84	17.15	17.51	10.92	12.29	11.30	12.61	12.98
	4H	16.13	17.41	16.53	17.76	18.13	11.42	12.70	11.82	13.05	13.43
	6H	16.62	17.80	17.03	18.16	18.56	11.80	12.99	12.22	13.35	13.74
	8H	16.78	17.91	17.21	18.30	18.70	11.93	13.05	12.35	13.44	13.84
	12H	16.88	17.96	17.31	18.34	18.77	12.01	13.09	12.44	13.47	13.90
4H	2H	13.80	15.08	14.20	15.43	15.81	10.35	11.63	10.75	11.98	12.36
	3H	15.73	16.79	16.14	17.19	17.60	11.79	12.86	12.20	13.26	13.66
	4H	16.48	17.44	16.91	17.85	18.29	12.39	13.35	12.83	13.77	14.20
	6H	17.07	17.90	17.53	18.35	18.81	12.88	13.71	13.34	14.16	14.62
	8H	17.29	18.06	17.75	18.51	18.98	13.04	13.82	13.51	14.26	14.73
	12H	17.44	18.14	17.92	18.61	19.08	13.16	13.86	13.64	14.33	14.80
8H	4H	16.51	17.28	16.97	17.73	18.19	12.75	13.52	13.21	13.97	14.44
	6H	17.14	17.79	17.64	18.28	18.75	13.33	13.98	13.83	14.47	14.94
	8H	17.39	17.97	17.91	18.48	18.97	13.55	14.13	14.07	14.64	15.13
	12H	17.60	18.11	18.11	18.60	19.16	13.73	14.24	14.24	14.74	15.30
12H	4H	16.49	17.18	16.97	17.66	18.13	12.79	13.48	13.27	13.96	14.43
	6H	17.12	17.70	17.64	18.21	18.70	13.40	13.97	13.91	14.48	14.97
	8H	17.41	17.92	17.92	18.41	18.97	13.67	14.18	14.18	14.67	15.24