

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: P931176

Luminaire Tested: DFN2DS-SQ4F0-120DS835-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931176
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-SQ4F0-120DS835-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

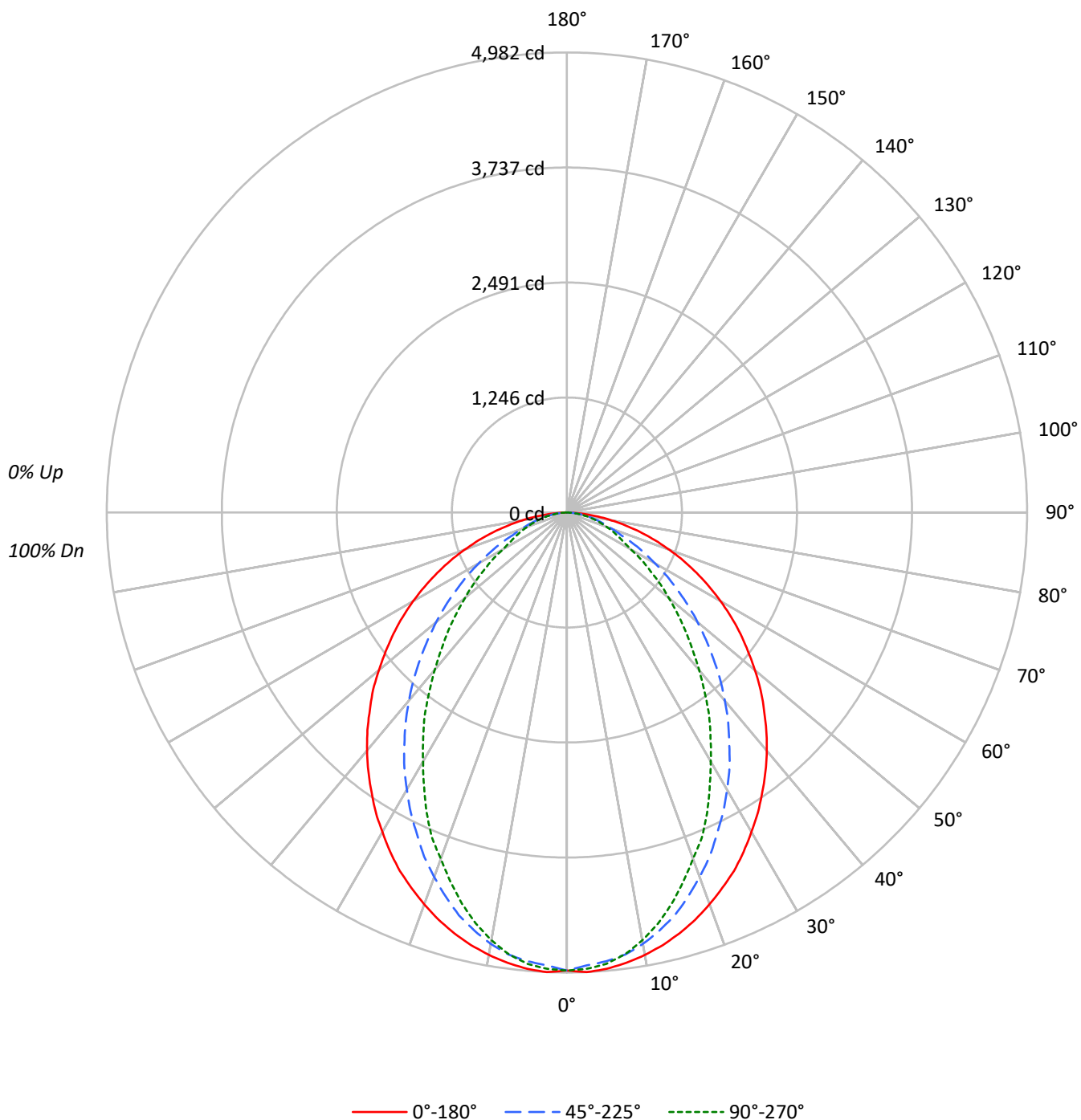
Lumens per Lamp: N/A
Luminaire Lumens: 10200.0 lumens
Efficiency: N/A
Efficacy: 81.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 125.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931176

CATALOG NUMBER: DFN2DS-SQ4F0-120DS835-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931176

CATALOG NUMBER: DFN2DS-SQ4F0-120DS835-RLL

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°	3480	3480	3480
5°	3493	3436	3455
10°	3467	3380	3352
15°	3427	3280	3186
20°	3372	3137	2979
25°	3315	2974	2780
30°	3237	2807	2524
35°	3160	2626	2299
40°	3083	2438	2039
45°	2993	2227	1804
50°	2901	2014	1573
55°	2806	1784	1351
60°	2696	1543	1121
65°	2571	1297	1021
70°	2422	1068	939
75°	2239	974	876
80°	1976	870	798
85°	1553	686	686

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2993 cd/sqm

TEST NUMBER: P931176

CATALOG NUMBER: DFN2DS-SQ4F0-120DS835-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	464.8	4.6
10°-20°	1276.0	12.5
20°-30°	1791.5	17.6
30°-40°	1952.8	19.1
40°-50°	1794.9	17.6
50°-60°	1409.6	13.8
60°-70°	917.5	9.0
70°-80°	472.3	4.6
80°-90°	120.6	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°	3532.3	34.6
0°-40°	5485.2	53.8
0°-60°	8689.6	85.2
0°-90°	10200.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10200.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4960	4960	4960	4960	4960	
5°	4960	4937	4879	4919	4906	470
15°	4717	4668	4515	4430	4385	1329
25°	4282	4138	3842	3658	3590	1969
35°	3690	3460	3066	2783	2684	2309
45°	3016	2715	2244	1925	1818	2329
55°	2293	1943	1459	1190	1104	2049
65°	1549	1185	781	629	615	1535
75°	826	511	359	328	323	873
85°	193	99	85	85	85	231
90°	0	0	0	0	0	

TEST NUMBER: P931176

CATALOG NUMBER: DFN2DS-SQ4F0-120DS835-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4959.6	4959.6	4959.6	4959.6	4959.6
2.5°	4982.0	4959.6	4910.1	4955.3	4946.2
5°	4959.6	4937.2	4878.6	4919.1	4905.8
7.5°	4919.1	4892.4	4829.6	4847.2	4824.8
10°	4865.3	4833.9	4744.3	4730.5	4703.9
12.5°	4798.1	4757.7	4636.2	4609.6	4560.1
15°	4717.2	4667.7	4515.3	4430.0	4385.3
17.5°	4622.9	4551.0	4362.4	4263.9	4192.0
20°	4515.3	4425.3	4201.0	4089.1	3990.0
22.5°	4398.6	4295.3	4034.8	3882.4	3815.3
25°	4282.0	4138.1	3841.9	3658.1	3590.5
27.5°	4142.9	3990.0	3662.4	3451.5	3348.1
30°	3994.8	3823.9	3464.8	3236.2	3114.8
32.5°	3851.0	3644.3	3276.7	3007.2	2894.8
35°	3689.6	3460.5	3065.7	2782.9	2683.8
37.5°	3532.4	3285.3	2868.1	2558.1	2446.2
40°	3366.2	3097.2	2661.5	2342.9	2226.2
42.5°	3195.7	2908.6	2455.3	2122.9	2011.0
45°	3016.2	2715.3	2244.3	1925.3	1817.6
47.5°	2845.7	2527.2	2042.4	1723.4	1624.8
50°	2657.2	2338.6	1844.8	1534.8	1441.0
52.5°	2472.9	2136.2	1656.2	1360.0	1274.8
55°	2293.4	1943.4	1458.6	1189.5	1104.3
57.5°	2109.5	1750.5	1283.8	1032.4	960.5
60°	1921.0	1561.9	1099.5	871.0	799.1
62.5°	1737.2	1378.1	942.4	727.2	691.4
65°	1548.6	1184.8	781.0	628.6	614.8
67.5°	1369.1	1005.2	628.6	551.9	538.6
70°	1180.5	830.5	520.5	475.7	457.6
72.5°	1001.0	668.6	435.2	399.5	390.5
75°	825.7	511.4	359.1	327.6	323.3
77.5°	651.0	363.3	282.9	264.8	255.7
80°	489.1	260.5	215.2	197.6	197.6
82.5°	341.0	175.2	148.1	139.0	139.0
85°	192.9	98.6	85.2	85.2	85.2
87.5°	71.9	35.7	35.7	31.4	31.4
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931176

CATALOG NUMBER: DFN2DS-SQ4F0-120DS835-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	15.57	17.09	15.93	17.40	17.72	11.53	13.05	11.89	13.36	13.68
	3H	17.33	18.70	17.71	19.03	19.39	12.79	14.16	13.17	14.49	14.85
	4H	18.00	19.28	18.40	19.63	20.01	13.29	14.58	13.69	14.92	15.30
	6H	18.49	19.67	18.90	20.04	20.43	13.68	14.86	14.09	15.23	15.62
	8H	18.65	19.78	19.08	20.17	20.57	13.80	14.93	14.23	15.32	15.72
	12H	18.76	19.83	19.19	20.22	20.65	13.88	14.96	14.31	15.34	15.77
4H	2H	15.67	16.95	16.07	17.30	17.68	12.22	13.50	12.62	13.85	14.23
	3H	17.60	18.67	18.02	19.07	19.47	13.67	14.73	14.08	15.13	15.53
	4H	18.35	19.31	18.79	19.73	20.16	14.27	15.22	14.70	15.64	16.08
	6H	18.95	19.78	19.40	20.22	20.68	14.75	15.59	15.21	16.03	16.49
	8H	19.16	19.94	19.62	20.38	20.85	14.92	15.69	15.38	16.14	16.60
	12H	19.31	20.01	19.80	20.49	20.96	15.03	15.73	15.52	16.21	16.68
8H	4H	18.38	19.16	18.84	19.60	20.07	14.62	15.40	15.08	15.84	16.31
	6H	19.02	19.66	19.51	20.15	20.63	15.21	15.85	15.70	16.34	16.82
	8H	19.27	19.84	19.78	20.35	20.84	15.43	16.00	15.94	16.51	17.00
	12H	19.47	19.98	19.98	20.47	21.04	15.61	16.12	16.12	16.61	17.17
12H	4H	18.36	19.06	18.84	19.54	20.01	14.66	15.36	15.15	15.84	16.31
	6H	19.00	19.57	19.51	20.08	20.57	15.27	15.85	15.78	16.36	16.85
	8H	19.28	19.79	19.79	20.28	20.85	15.54	16.05	16.05	16.54	17.11

END OF REPORT

FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE

7 of 7