

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: P931202

Luminaire Tested: DFN2DS-SQ4F0-140DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931202
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-SQ4F0-140DS930-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

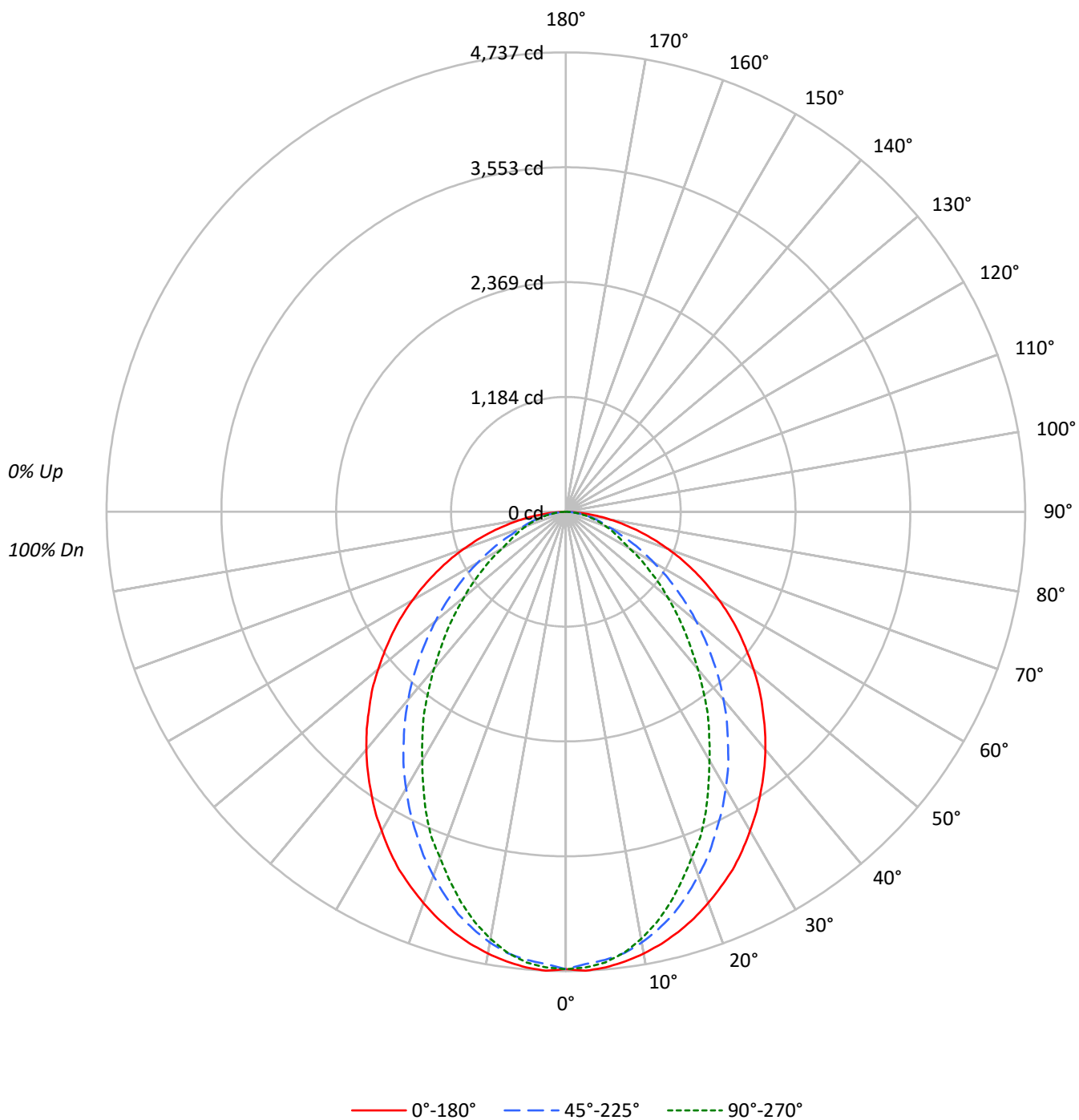
Lumens per Lamp: N/A
Luminaire Lumens: 9698.5 lumens
Efficiency: N/A
Efficacy: 63.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 151.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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°	3309	3309	3309
5°	3322	3267	3286
10°	3296	3214	3187
15°	3258	3119	3029
20°	3206	2983	2833
25°	3152	2828	2643
30°	3078	2669	2400
35°	3005	2497	2186
40°	2932	2318	1939
45°	2846	2118	1715
50°	2758	1915	1496
55°	2668	1697	1285
60°	2563	1467	1066
65°	2445	1233	970
70°	2303	1015	893
75°	2128	926	833
80°	1879	827	759
85°	1477	652	652

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2846 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	442.0	4.6
10°-20°	1213.3	12.5
20°-30°	1703.4	17.6
30°-40°	1856.8	19.1
40°-50°	1706.6	17.6
50°-60°	1340.3	13.8
60°-70°	872.4	9.0
70°-80°	449.1	4.6
80°-90°	114.6	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°	3358.7	34.6
0°-40°	5215.5	53.8
0°-60°	8262.4	85.2
0°-90°	9698.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9698.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4716	4716	4716	4716	4716	
5°	4716	4694	4639	4677	4665	447
15°	4485	4438	4293	4212	4170	1264
25°	4071	3935	3653	3478	3414	1872
35°	3508	3290	2915	2646	2552	2196
45°	2868	2582	2134	1831	1728	2215
55°	2181	1848	1387	1131	1050	1949
65°	1472	1126	742	598	584	1460
75°	785	486	341	312	307	830
85°	183	94	81	81	81	220
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4715.8	4715.8	4715.8	4715.8	4715.8
2.5°	4737.0	4715.8	4668.6	4711.7	4703.0
5°	4715.8	4694.5	4638.7	4677.3	4664.6
7.5°	4677.3	4651.9	4592.1	4608.9	4587.6
10°	4626.1	4596.2	4511.1	4497.9	4472.6
12.5°	4562.2	4523.7	4408.3	4382.9	4335.9
15°	4485.3	4438.2	4293.3	4212.2	4169.7
17.5°	4395.6	4327.2	4147.9	4054.2	3985.8
20°	4293.3	4207.7	3994.5	3888.0	3793.9
22.5°	4182.3	4084.1	3836.4	3691.5	3627.7
25°	4071.4	3934.7	3653.1	3478.3	3414.0
27.5°	3939.2	3793.9	3482.3	3281.8	3183.6
30°	3798.4	3635.9	3294.5	3077.1	2961.6
32.5°	3661.6	3465.1	3115.6	2859.3	2752.5
35°	3508.2	3290.4	2915.0	2646.1	2551.8
37.5°	3358.8	3123.7	2727.1	2432.4	2325.9
40°	3200.7	2944.9	2530.6	2227.7	2116.8
42.5°	3038.6	2765.6	2334.6	2018.5	1912.1
45°	2867.9	2581.8	2134.0	1830.6	1728.3
47.5°	2705.8	2402.9	1942.0	1638.6	1544.9
50°	2526.5	2223.6	1754.0	1459.3	1370.1
52.5°	2351.3	2031.1	1574.7	1293.2	1212.1
55°	2180.6	1847.8	1386.9	1131.1	1050.0
57.5°	2005.8	1664.4	1220.7	981.7	913.3
60°	1826.5	1485.1	1045.5	828.1	759.7
62.5°	1651.8	1310.4	896.1	691.4	657.5
65°	1472.5	1126.5	742.5	597.6	584.5
67.5°	1301.7	955.8	597.6	524.8	512.1
70°	1122.4	789.7	494.9	452.3	435.1
72.5°	951.8	635.7	413.9	379.9	371.3
75°	785.1	486.3	341.4	311.5	307.4
77.5°	619.0	345.5	269.0	251.8	243.1
80°	465.0	247.7	204.6	187.9	187.9
82.5°	324.2	166.6	140.8	132.2	132.2
85°	183.4	93.7	81.0	81.0	81.0
87.5°	68.4	34.0	34.0	29.9	29.9
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	15.39	16.91	15.76	17.23	17.54	11.35	12.87	11.72	13.19	13.50
	3H	17.16	18.52	17.54	18.85	19.21	12.62	13.98	13.00	14.31	14.67
	4H	17.82	19.10	18.22	19.45	19.83	13.12	14.40	13.52	14.75	15.13
	6H	18.31	19.50	18.72	19.86	20.25	13.50	14.68	13.91	15.05	15.44
	8H	18.48	19.60	18.90	19.99	20.40	13.63	14.75	14.05	15.14	15.54
	12H	18.58	19.66	19.01	20.04	20.47	13.71	14.78	14.14	15.17	15.60
4H	2H	15.50	16.78	15.90	17.13	17.50	12.05	13.33	12.45	13.68	14.06
	3H	17.43	18.49	17.84	18.89	19.29	13.49	14.55	13.90	14.95	15.36
	4H	18.18	19.14	18.61	19.55	19.99	14.09	15.05	14.52	15.46	15.90
	6H	18.77	19.60	19.23	20.05	20.50	14.58	15.41	15.04	15.85	16.31
	8H	18.99	19.76	19.45	20.21	20.67	14.74	15.52	15.20	15.96	16.43
	12H	19.14	19.83	19.62	20.31	20.78	14.86	15.55	15.34	16.03	16.50
8H	4H	18.20	18.98	18.67	19.42	19.89	14.44	15.22	14.91	15.67	16.13
	6H	18.84	19.48	19.34	19.97	20.45	15.03	15.67	15.53	16.16	16.64
	8H	19.09	19.67	19.60	20.18	20.67	15.25	15.83	15.77	16.34	16.83
	12H	19.30	19.80	19.80	20.30	20.86	15.43	15.94	15.94	16.43	17.00
12H	4H	18.19	18.88	18.67	19.36	19.83	14.49	15.18	14.97	15.66	16.13
	6H	18.82	19.40	19.34	19.91	20.40	15.09	15.67	15.61	16.18	16.67
	8H	19.11	19.62	19.62	20.11	20.67	15.37	15.88	15.88	16.37	16.93