

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: P931066

Luminaire Tested: DFN2DS-SQ4F0-060DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931066
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-SQ4F0-060DS830-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

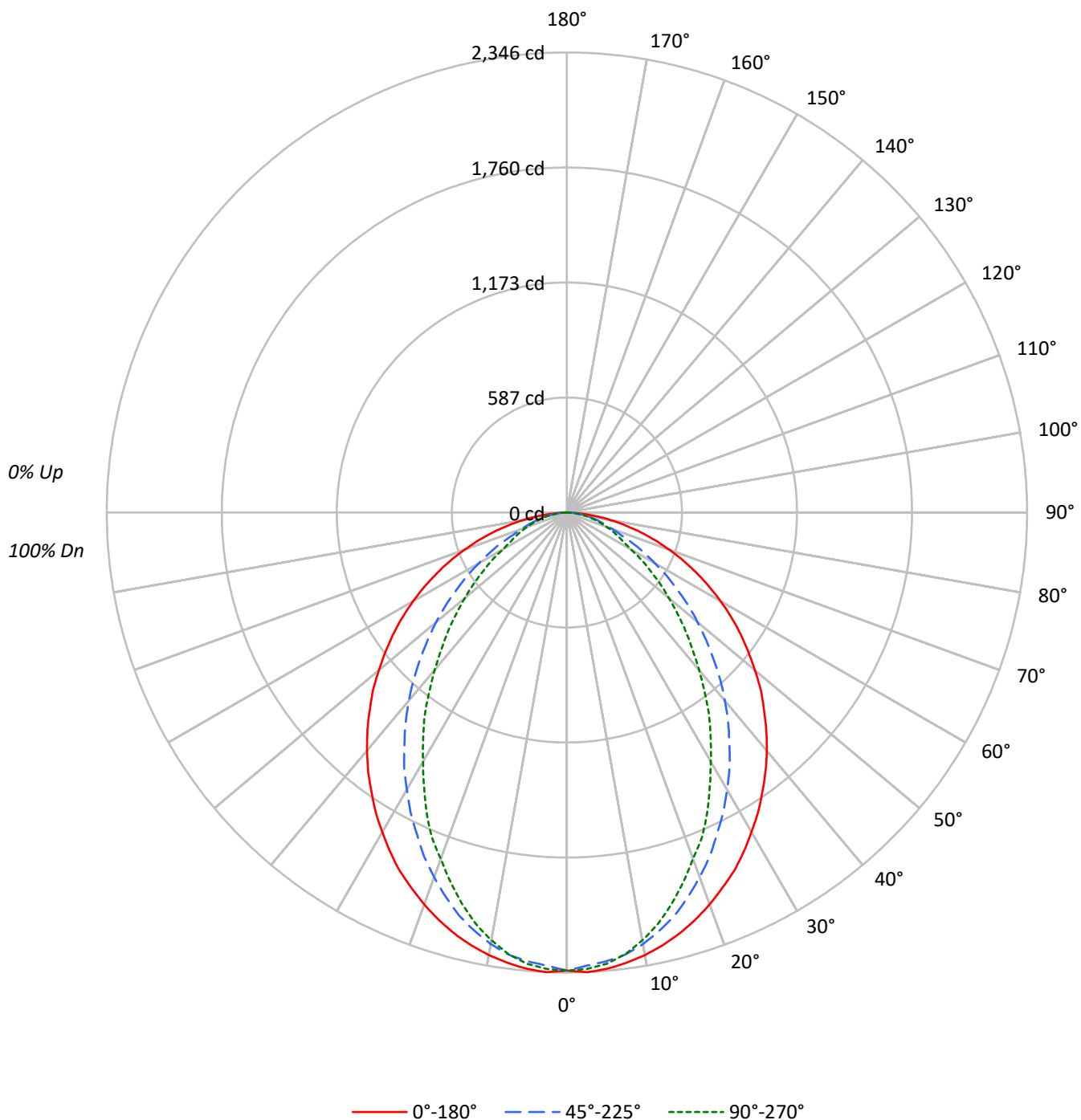
Lumens per Lamp: N/A
Luminaire Lumens: 4804.2 lumens
Efficiency: N/A
Efficacy: 83.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 57.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
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°	1639	1639	1639
5°	1645	1618	1627
10°	1633	1592	1579
15°	1614	1545	1500
20°	1588	1478	1403
25°	1561	1401	1309
30°	1525	1322	1189
35°	1489	1237	1083
40°	1452	1148	960
45°	1410	1049	850
50°	1366	949	741
55°	1321	840	636
60°	1270	727	528
65°	1211	611	481
70°	1141	503	442
75°	1055	458	413
80°	931	410	376
85°	731	323	323

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1410 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.9	4.6
10°-20°	601.0	12.5
20°-30°	843.8	17.6
30°-40°	919.8	19.1
40°-50°	845.4	17.6
50°-60°	663.9	13.8
60°-70°	432.2	9.0
70°-80°	222.5	4.6
80°-90°	56.8	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°	1663.7	34.6
0°-40°	2583.5	53.8
0°-60°	4092.8	85.2
0°-90°	4804.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4804.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2336	2336	2336	2336	2336	
5°	2336	2325	2298	2317	2311	221
15°	2222	2198	2127	2086	2065	626
25°	2017	1949	1810	1723	1691	928
35°	1738	1630	1444	1311	1264	1088
45°	1421	1279	1057	907	856	1097
55°	1080	915	687	560	520	965
65°	729	558	368	296	290	723
75°	389	241	169	154	152	411
85°	91	46	40	40	40	109
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2336.0	2336.0	2336.0	2336.0	2336.0
2.5°	2346.5	2336.0	2312.6	2333.9	2329.7
5°	2336.0	2325.4	2297.8	2316.9	2310.6
7.5°	2316.9	2304.3	2274.7	2283.0	2272.5
10°	2291.5	2276.7	2234.6	2228.1	2215.5
12.5°	2260.0	2240.8	2183.7	2171.1	2147.8
15°	2221.8	2198.4	2126.7	2086.5	2065.4
17.5°	2177.4	2143.5	2054.7	2008.2	1974.4
20°	2126.7	2084.3	1978.7	1925.9	1879.3
22.5°	2071.7	2023.0	1900.4	1828.6	1797.0
25°	2016.8	1949.1	1809.6	1723.0	1691.2
27.5°	1951.4	1879.3	1725.0	1625.6	1577.0
30°	1881.6	1801.0	1631.9	1524.3	1467.1
32.5°	1813.8	1716.5	1543.4	1416.4	1363.5
35°	1737.8	1629.9	1444.0	1310.7	1264.1
37.5°	1663.8	1547.3	1350.9	1204.9	1152.2
40°	1585.5	1458.8	1253.5	1103.5	1048.5
42.5°	1505.2	1370.0	1156.4	999.8	947.2
45°	1420.6	1278.9	1057.1	906.8	856.1
47.5°	1340.4	1190.3	962.0	811.7	765.3
50°	1251.5	1101.5	868.9	722.9	678.7
52.5°	1164.7	1006.2	780.1	640.6	600.4
55°	1080.2	915.3	687.0	560.3	520.1
57.5°	993.6	824.4	604.7	486.3	452.3
60°	904.8	735.7	517.9	410.2	376.3
62.5°	818.2	649.1	443.9	342.5	325.6
65°	729.4	558.0	367.9	296.1	289.6
67.5°	644.8	473.4	296.1	260.0	253.7
70°	556.0	391.1	245.1	224.1	215.5
72.5°	471.5	314.9	205.0	188.2	183.9
75°	389.0	240.9	169.1	154.3	152.3
77.5°	306.6	171.2	133.2	124.7	120.5
80°	230.3	122.6	101.4	93.1	93.1
82.5°	160.6	82.5	69.7	65.5	65.5
85°	90.8	46.4	40.1	40.1	40.1
87.5°	33.9	16.9	16.9	14.8	14.8
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	12.95	14.47	13.32	14.79	15.10	8.91	10.43	9.28	10.75	11.06
	3H	14.72	16.08	15.09	16.41	16.77	10.18	11.54	10.56	11.87	12.23
	4H	15.38	16.66	15.78	17.01	17.39	10.68	11.96	11.08	12.31	12.69
	6H	15.87	17.05	16.28	17.42	17.81	11.06	12.24	11.47	12.61	13.00
	8H	16.04	17.16	16.46	17.55	17.95	11.19	12.31	11.61	12.70	13.10
	12H	16.14	17.22	16.57	17.60	18.03	11.27	12.34	11.70	12.73	13.16
4H	2H	13.06	14.34	13.45	14.68	15.06	9.61	10.89	10.01	11.24	11.62
	3H	14.99	16.05	15.40	16.45	16.85	11.05	12.11	11.46	12.51	12.91
	4H	15.74	16.69	16.17	17.11	17.55	11.65	12.61	12.08	13.02	13.46
	6H	16.33	17.16	16.79	17.60	18.06	12.14	12.97	12.60	13.41	13.87
	8H	16.54	17.32	17.01	17.77	18.23	12.30	13.08	12.76	13.52	13.99
	12H	16.70	17.39	17.18	17.87	18.34	12.42	13.11	12.90	13.59	14.06
8H	4H	15.76	16.54	16.23	16.98	17.45	12.00	12.78	12.47	13.23	13.69
	6H	16.40	17.04	16.90	17.53	18.01	12.59	13.23	13.09	13.72	14.20
	8H	16.65	17.23	17.16	17.74	18.22	12.81	13.39	13.33	13.90	14.39
	12H	16.85	17.36	17.36	17.86	18.42	12.99	13.50	13.50	13.99	14.56
12H	4H	15.75	16.44	16.23	16.92	17.39	12.05	12.74	12.53	13.22	13.69
	6H	16.38	16.96	16.89	17.47	17.96	12.65	13.23	13.17	13.74	14.23
	8H	16.66	17.17	17.17	17.67	18.23	12.93	13.44	13.44	13.93	14.49