

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: P931480

Luminaire Tested: DFN2DS-TR4F0-060DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931480
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-TR4F0-060DS830-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

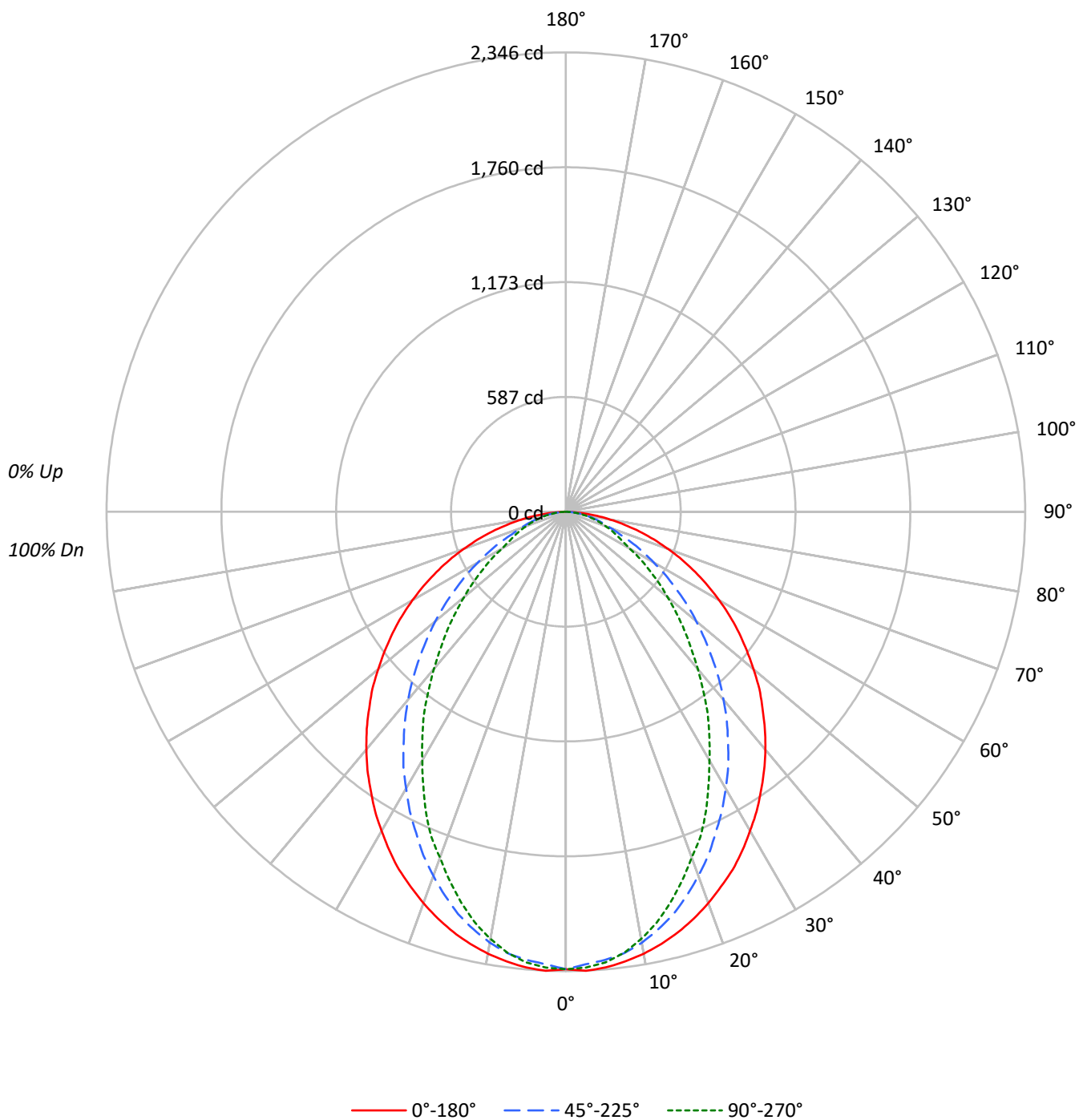
Lumens per Lamp: N/A
Luminaire Lumens: 4804.2 lumens
Efficiency: N/A
Efficacy: 80.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 59.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
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°	1856	1856	1856
5°	1863	1832	1843
10°	1849	1803	1787
15°	1827	1749	1699
20°	1798	1673	1589
25°	1768	1586	1482
30°	1726	1497	1346
35°	1685	1400	1226
40°	1644	1300	1087
45°	1596	1188	962
50°	1547	1074	839
55°	1496	952	720
60°	1438	823	598
65°	1371	692	544
70°	1291	569	501
75°	1194	519	467
80°	1054	464	426
85°	828	366	366

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1596 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	13.38	14.90	13.75	15.22	15.53	9.34	10.87	9.71	11.18	11.49
	3H	15.15	16.51	15.53	16.84	17.20	10.61	11.97	10.99	12.30	12.66
	4H	15.81	17.09	16.21	17.44	17.82	11.11	12.39	11.51	12.74	13.12
	6H	16.30	17.49	16.72	17.85	18.24	11.49	12.67	11.90	13.04	13.43
	8H	16.47	17.59	16.89	17.98	18.39	11.62	12.74	12.04	13.13	13.53
	12H	16.57	17.65	17.00	18.03	18.46	11.70	12.78	12.13	13.16	13.59
4H	2H	13.49	14.77	13.89	15.12	15.49	10.04	11.32	10.44	11.67	12.05
	3H	15.42	16.48	15.83	16.88	17.28	11.48	12.55	11.89	12.95	13.35
	4H	16.17	17.13	16.60	17.54	17.98	12.08	13.04	12.51	13.45	13.89
	6H	16.76	17.59	17.22	18.04	18.50	12.57	13.40	13.03	13.84	14.30
	8H	16.98	17.75	17.44	18.20	18.66	12.73	13.51	13.20	13.95	14.42
	12H	17.13	17.82	17.61	18.30	18.77	12.85	13.54	13.33	14.02	14.49
8H	4H	16.19	16.97	16.66	17.41	17.88	12.44	13.21	12.90	13.66	14.12
	6H	16.83	17.47	17.33	17.96	18.44	13.02	13.66	13.52	14.16	14.63
	8H	17.08	17.66	17.60	18.17	18.66	13.24	13.82	13.76	14.33	14.82
	12H	17.29	17.80	17.79	18.29	18.85	13.42	13.93	13.93	14.42	14.99
12H	4H	16.18	16.87	16.66	17.35	17.82	12.48	13.17	12.96	13.65	14.12
	6H	16.81	17.39	17.33	17.90	18.39	13.09	13.66	13.60	14.17	14.66
	8H	17.10	17.61	17.61	18.10	18.66	13.36	13.87	13.87	14.36	14.93