

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: P930490

Luminaire Tested: DFN2DS-PN2F0-060DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930490
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-PN2F0-060DS830-RLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

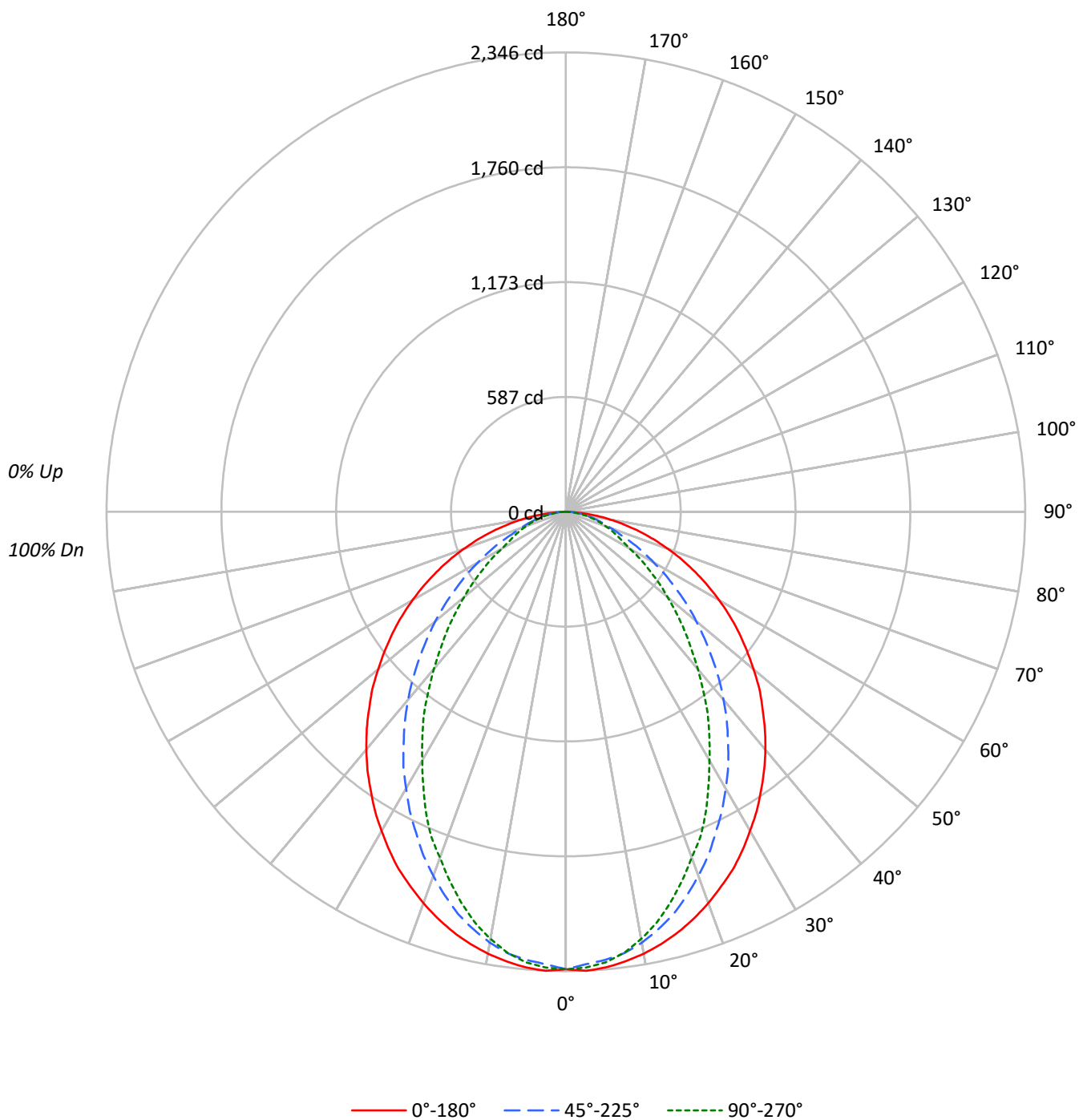
Lumens per Lamp: N/A
Luminaire Lumens: 4804.2 lumens
Efficiency: N/A
Efficacy: 71.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.29' x L: 2.17' x H: 0')
CIE Type: Direct

Input Watts (W): 67.6
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°	5059	5059	5059
5°	5079	4996	5024
10°	5040	4915	4873
15°	4982	4769	4631
20°	4902	4561	4332
25°	4820	4325	4042
30°	4706	4081	3669
35°	4595	3818	3342
40°	4483	3544	2964
45°	4351	3238	2622
50°	4217	2928	2287
55°	4079	2594	1964
60°	3919	2243	1630
65°	3738	1885	1484
70°	3521	1552	1365
75°	3255	1415	1274
80°	2872	1265	1161
85°	2256	997	997

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 4351 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	16.87	18.39	17.23	18.70	19.02	12.83	14.35	13.19	14.66	14.98
	3H	18.63	20.00	19.01	20.33	20.69	14.09	15.46	14.47	15.79	16.15
	4H	19.30	20.58	19.70	20.93	21.31	14.60	15.88	14.99	16.22	16.60
	6H	19.79	20.97	20.20	21.34	21.73	14.98	16.16	15.39	16.53	16.92
	8H	19.95	21.08	20.38	21.47	21.87	15.10	16.23	15.53	16.62	17.02
	12H	20.06	21.13	20.49	21.52	21.95	15.18	16.26	15.61	16.64	17.07
4H	2H	16.97	18.25	17.37	18.60	18.98	13.52	14.80	13.92	15.15	15.53
	3H	18.90	19.97	19.31	20.37	20.77	14.97	16.03	15.38	16.43	16.83
	4H	19.65	20.61	20.09	21.03	21.46	15.57	16.52	16.00	16.94	17.38
	6H	20.25	21.08	20.70	21.52	21.98	16.06	16.89	16.51	17.33	17.79
	8H	20.46	21.24	20.92	21.68	22.15	16.22	16.99	16.68	17.44	17.91
	12H	20.61	21.31	21.10	21.79	22.26	16.33	17.03	16.82	17.51	17.98
8H	4H	19.68	20.46	20.14	20.90	21.37	15.92	16.70	16.38	17.14	17.61
	6H	20.32	20.96	20.81	21.45	21.93	16.51	17.15	17.00	17.64	18.12
	8H	20.57	21.14	21.08	21.65	22.14	16.73	17.30	17.24	17.81	18.30
	12H	20.77	21.28	21.28	21.77	22.34	16.91	17.42	17.42	17.91	18.47
12H	4H	19.66	20.36	20.14	20.84	21.31	15.96	16.66	16.45	17.14	17.61
	6H	20.30	20.87	20.81	21.38	21.87	16.57	17.15	17.08	17.66	18.15
	8H	20.58	21.09	21.09	21.58	22.15	16.84	17.35	17.35	17.85	18.41