

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: P931507

Luminaire Tested: DFN2DS-TR4F0-070DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931507
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-TR4F0-070DS930-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

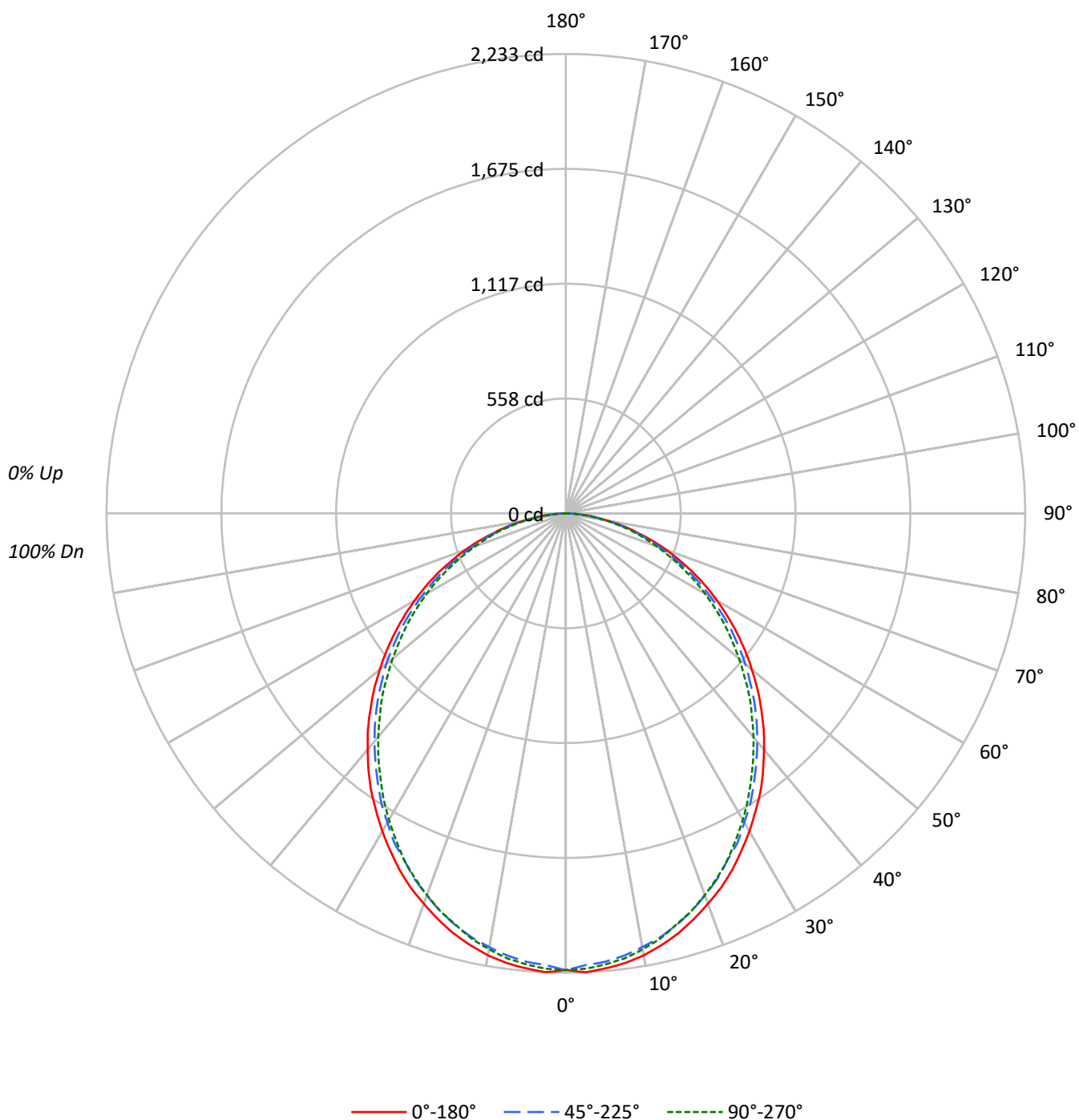
Lumens per Lamp: N/A
Luminaire Lumens: 5648.0 lumens
Efficiency: N/A
Efficacy: 78.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 71.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1763	1763	1763
5°	1770	1745	1755
10°	1760	1727	1736
15°	1738	1705	1703
20°	1707	1671	1669
25°	1677	1630	1630
30°	1637	1592	1578
35°	1600	1546	1524
40°	1554	1501	1472
45°	1509	1456	1420
50°	1459	1409	1359
55°	1407	1354	1304
60°	1350	1289	1241
65°	1288	1224	1168
70°	1210	1145	1091
75°	1100	1054	1029
80°	977	947	898
85°	797	760	681

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1509 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	208.9	3.7
10°-20°	587.9	10.4
20°-30°	863.9	15.3
30°-40°	1003.4	17.8
40°-50°	1002.1	17.7
50°-60°	873.8	15.5
60°-70°	646.0	11.4
70°-80°	365.5	6.5
80°-90°	96.5	1.7
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°	1660.7	29.4
0°-40°	2664.1	47.2
0°-60°	4540.1	80.4
0°-90°	5648.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5648.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2220	2220	2220	2220	2220	
5°	2220	2212	2188	2205	2201	211
15°	2113	2100	2073	2081	2071	595
25°	1913	1896	1859	1863	1859	880
35°	1650	1629	1594	1582	1571	1030
45°	1343	1328	1296	1272	1264	1036
55°	1016	1003	978	952	941	908
65°	685	672	651	632	621	678
75°	358	354	344	331	335	383
85°	87	85	83	77	75	103
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2219.8	2219.8	2219.8	2219.8	2219.8
2.5°	2232.8	2222.1	2198.5	2219.8	2215.7
5°	2219.8	2211.5	2187.9	2204.9	2200.8
7.5°	2204.9	2192.2	2168.6	2185.9	2181.6
10°	2181.6	2166.6	2141.0	2158.0	2151.7
12.5°	2149.4	2136.8	2111.2	2121.8	2117.5
15°	2113.2	2100.5	2072.6	2081.3	2070.6
17.5°	2068.3	2055.7	2027.8	2038.5	2027.8
20°	2019.2	2006.5	1976.6	1983.0	1974.6
22.5°	1970.3	1951.0	1923.2	1923.2	1918.8
25°	1912.6	1895.5	1859.3	1863.4	1859.3
27.5°	1848.4	1833.5	1805.9	1799.5	1788.8
30°	1784.6	1767.3	1735.5	1729.1	1720.5
32.5°	1716.1	1703.5	1669.3	1656.4	1647.8
35°	1650.0	1628.8	1594.5	1581.7	1571.0
37.5°	1575.3	1556.1	1521.8	1506.9	1496.3
40°	1498.5	1481.3	1447.1	1428.1	1419.5
42.5°	1423.8	1406.6	1372.6	1351.1	1338.4
45°	1342.7	1327.8	1295.6	1272.3	1263.7
47.5°	1263.7	1248.7	1214.5	1191.0	1178.3
50°	1180.4	1169.7	1139.8	1109.9	1099.3
52.5°	1099.3	1084.4	1056.7	1033.2	1018.2
55°	1016.1	1003.3	977.7	952.1	941.4
57.5°	932.8	922.2	894.3	868.7	860.2
60°	849.5	841.1	811.3	787.7	781.3
62.5°	768.4	753.5	732.2	710.9	702.3
65°	685.3	672.4	651.1	631.9	621.2
67.5°	599.9	589.1	570.0	555.1	546.5
70°	520.9	512.3	493.0	478.1	469.7
72.5°	439.8	431.2	420.5	405.6	399.3
75°	358.5	354.4	343.5	330.9	335.2
77.5°	286.1	277.4	273.1	266.7	260.5
80°	213.5	211.3	207.0	200.7	196.3
82.5°	145.2	145.2	143.1	134.6	134.6
85°	87.4	85.4	83.4	76.8	74.7
87.5°	38.5	34.2	29.9	23.6	21.3
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	13.25	14.86	13.62	15.18	15.49	12.81	14.42	13.17	14.73	15.05
	3H	15.00	16.46	15.38	16.78	17.15	14.51	15.97	14.89	16.29	16.65
	4H	15.65	17.02	16.05	17.37	17.74	15.16	16.52	15.55	16.87	17.25
	6H	16.12	17.39	16.53	17.75	18.14	15.62	16.89	16.03	17.25	17.64
	8H	16.26	17.47	16.69	17.86	18.26	15.76	16.97	16.18	17.36	17.76
	12H	16.35	17.51	16.78	17.89	18.32	15.84	17.00	16.27	17.38	17.81
4H	2H	13.81	15.18	14.21	15.53	15.91	13.46	14.83	13.86	15.18	15.55
	3H	15.79	16.94	16.20	17.33	17.73	15.38	16.53	15.79	16.93	17.33
	4H	16.57	17.60	17.00	18.02	18.45	16.14	17.18	16.57	17.59	18.03
	6H	17.16	18.07	17.62	18.51	18.96	16.73	17.63	17.18	18.08	18.53
	8H	17.35	18.20	17.81	18.64	19.11	16.91	17.76	17.37	18.20	18.67
	12H	17.48	18.24	17.96	18.72	19.19	17.03	17.79	17.51	18.27	18.74
8H	4H	16.84	17.69	17.30	18.13	18.59	16.46	17.31	16.93	17.75	18.22
	6H	17.55	18.26	18.05	18.74	19.22	17.17	17.87	17.67	18.36	18.84
	8H	17.81	18.44	18.32	18.95	19.44	17.42	18.05	17.93	18.56	19.04
	12H	18.01	18.57	18.52	19.06	19.62	17.60	18.16	18.11	18.65	19.21
12H	4H	16.86	17.62	17.35	18.10	18.57	16.50	17.26	16.98	17.74	18.21
	6H	17.60	18.23	18.11	18.74	19.22	17.23	17.86	17.74	18.37	18.85
	8H	17.91	18.47	18.42	18.96	19.52	17.53	18.09	18.04	18.58	19.14