

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: P907049

Luminaire Tested: DFN2DIP-TR2F0-050D020US835-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907049
REPORT IS A COMBINATION OF REPORTS P901747 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-050D020US835-FLLONL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

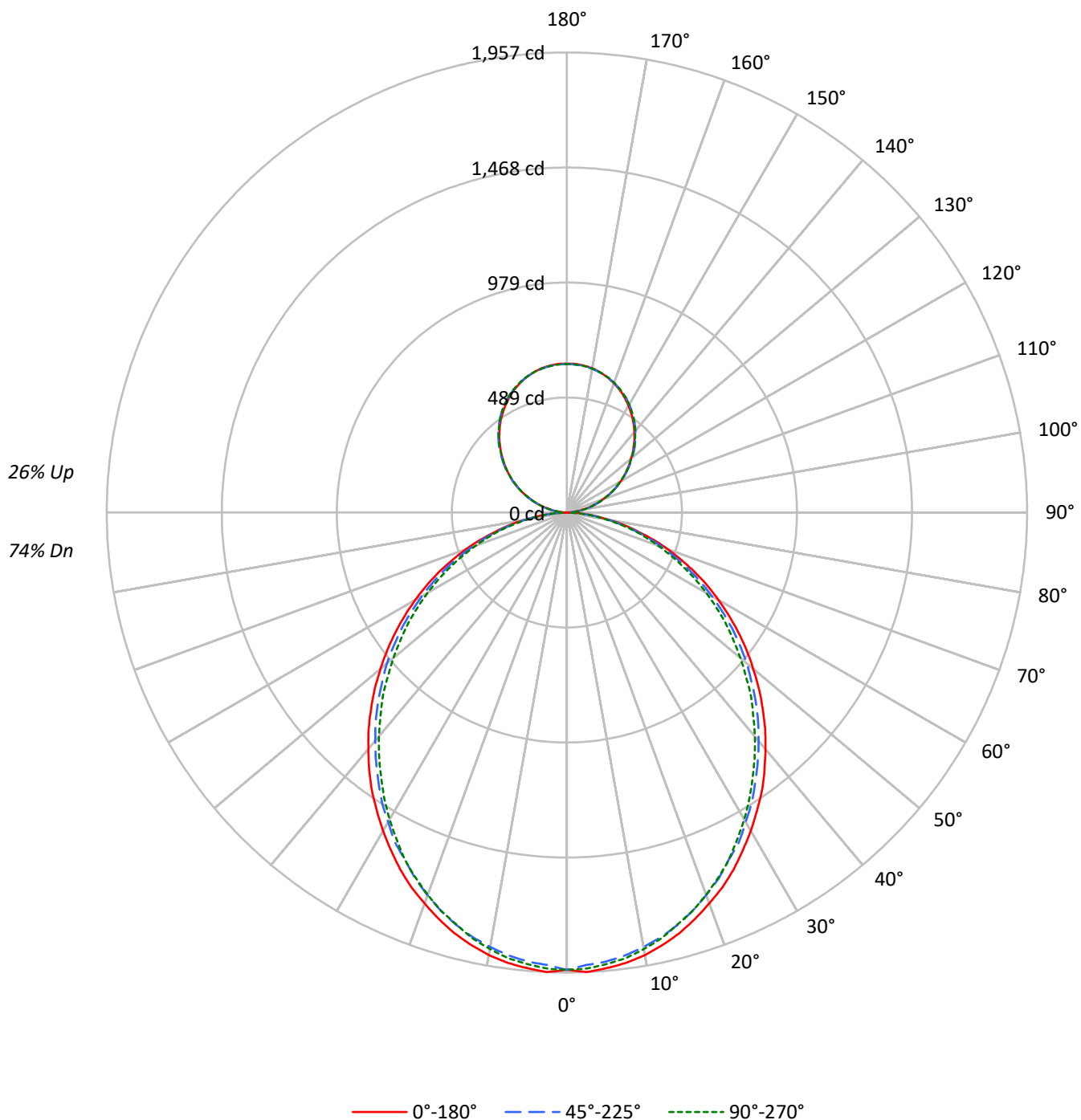
Lumens per Lamp: N/A
Luminaire Lumens: 6720.0 lumens
Efficiency: N/A
Efficacy: 107.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 62.8
Input Voltage (V): 120
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	30	10
RCR																	
0	113	113	113	113	107	107	107	107	96	96	96	87	87	87	78	78	78
1	103	99	95	91	98	94	90	87	85	82	80	77	74	72	69	67	66
2	94	86	80	74	89	82	76	71	74	70	66	67	64	61	61	58	55
3	86	76	68	62	81	72	65	60	66	60	55	59	55	51	54	50	47
4	79	67	59	53	74	64	57	51	58	52	47	53	48	44	48	44	41
5	72	60	52	45	68	57	50	44	52	46	41	48	42	38	43	39	36
6	67	54	46	40	63	52	44	38	47	41	36	43	38	34	39	35	31
7	62	49	41	35	58	47	39	34	43	37	32	39	34	30	36	31	28
8	57	45	37	31	54	43	35	30	39	33	28	36	31	27	33	29	25
9	54	41	33	28	51	39	32	27	36	30	26	33	28	24	31	26	23
10	50	38	30	25	48	36	29	24	33	27	23	31	26	22	28	24	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4339	4339	4339
5°	4340	4269	4300
10°	4298	4202	4235
15°	4228	4123	4136
20°	4137	4018	4036
25°	4045	3893	3921
30°	3932	3777	3777
35°	3824	3641	3625
40°	3693	3503	3480
45°	3561	3365	3330
50°	3417	3219	3159
55°	3266	3051	2999
60°	3094	2853	2816
65°	2906	2645	2600
70°	2667	2393	2367
75°	2338	2091	2141
80°	1939	1706	1730
85°	1321	1075	1075

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3561 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.1	2.7
10°-20°	515.2	7.7
20°-30°	757.2	11.3
30°-40°	879.4	13.1
40°-50°	878.3	13.1
50°-60°	765.8	11.4
60°-70°	566.1	8.4
70°-80°	320.3	4.8
80°-90°	86.3	1.3
90°-100°	39.1	0.6
100°-110°	124.4	1.9
110°-120°	212.8	3.2
120°-130°	279.9	4.2
130°-140°	314.2	4.7
140°-150°	308.1	4.6
150°-160°	258.4	3.8
160°-170°	171.4	2.6
170°-180°	59.9	0.9
0°-30°	1455.5	21.7
0°-40°	2334.9	34.7
0°-60°	3979.0	59.2
0°-90°	4951.8	73.7
90°-120°	376.3	5.6
90°-150°	1278.5	19.0
90°-180°	1768.0	26.3
0°-180°	6720.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1946	1946	1946	1946	1946	
5°	1946	1938	1918	1932	1929	185
15°	1852	1841	1816	1824	1815	522
25°	1676	1661	1630	1633	1630	771
35°	1446	1428	1398	1386	1377	903
45°	1177	1164	1136	1115	1108	908
55°	891	879	857	834	825	796
65°	601	589	571	554	544	594
75°	314	311	301	290	294	335
85°	77	75	73	67	66	85
90°	1	7	19	18	18	6
95°	28	33	34	34	33	31
105°	115	116	118	118	118	121
115°	214	217	216	215	214	211
125°	311	315	314	312	312	278
135°	402	408	409	408	407	311
145°	488	492	495	495	493	305
155°	558	559	561	564	562	257
165°	607	606	606	610	607	171
175°	631	630	629	632	629	60
180°	632	632	632	632	632	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1945.5	1945.5	1945.5	1945.5	1945.5
2.5°	1956.8	1947.5	1926.9	1945.5	1942.0
5°	1945.5	1938.2	1917.5	1932.4	1928.9
7.5°	1932.4	1921.3	1900.7	1915.8	1912.0
10°	1912.0	1898.9	1876.5	1891.3	1885.8
12.5°	1883.8	1872.7	1850.3	1859.6	1855.8
15°	1852.0	1840.9	1816.5	1824.1	1814.7
17.5°	1812.7	1801.6	1777.2	1786.5	1777.2
20°	1769.7	1758.6	1732.4	1737.9	1730.6
22.5°	1726.8	1709.9	1685.5	1685.5	1681.7
25°	1676.2	1661.3	1629.5	1633.1	1629.5
27.5°	1620.0	1606.9	1582.7	1577.1	1567.8
30°	1564.0	1549.0	1521.0	1515.4	1507.9
32.5°	1504.1	1493.0	1463.0	1451.7	1444.2
35°	1446.1	1427.5	1397.5	1386.2	1376.9
37.5°	1380.6	1363.8	1333.8	1320.7	1311.4
40°	1313.4	1298.3	1268.3	1251.6	1244.1
42.5°	1247.9	1232.8	1203.0	1184.1	1173.0
45°	1176.8	1163.7	1135.5	1115.1	1107.5
47.5°	1107.5	1094.4	1064.5	1043.8	1032.7
50°	1034.5	1025.2	999.0	972.8	963.4
52.5°	963.4	950.3	926.1	905.5	892.4
55°	890.6	879.3	856.8	834.4	825.1
57.5°	817.5	808.2	783.8	761.4	753.8
60°	744.5	737.2	711.0	690.3	684.8
62.5°	673.5	660.4	641.7	623.0	615.5
65°	600.6	589.3	570.6	553.8	544.4
67.5°	525.8	516.3	499.6	486.5	478.9
70°	456.5	449.0	432.1	419.0	411.7
72.5°	385.5	377.9	368.6	355.5	349.9
75°	314.2	310.6	301.1	290.0	293.8
77.5°	250.7	243.1	239.4	233.8	228.3
80°	187.2	185.2	181.4	175.9	172.1
82.5°	127.2	127.2	125.4	117.9	117.9
85°	76.6	74.8	73.0	67.3	65.5
87.5°	33.7	30.0	26.2	20.6	18.7
90°	0.6	6.9	18.7	17.5	18.1
92.5°	11.8	16.0	16.6	17.2	17.2
95°	27.8	33.2	34.1	34.1	33.2
97.5°	46.3	51.3	53.4	53.4	53.4
100°	67.7	72.1	73.6	73.6	73.0
102.5°	90.2	93.4	95.5	96.1	95.5
105°	114.8	116.3	117.5	118.4	118.4
107.5°	139.2	141.5	141.5	141.9	139.2
110°	162.9	165.9	165.9	165.9	164.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	188.4	191.6	191.1	189.5	188.4
115°	213.6	216.6	215.7	215.1	213.6
117.5°	238.6	242.8	240.1	238.6	237.0
120°	263.7	267.9	263.7	263.7	262.0
122.5°	286.6	291.9	289.3	287.8	286.6
125°	310.6	315.4	313.9	312.2	311.6
127.5°	334.1	340.0	337.9	335.6	334.1
130°	356.0	362.9	361.9	360.8	358.7
132.5°	380.6	386.0	386.3	383.7	382.1
135°	401.8	407.7	408.8	408.3	406.7
137.5°	425.4	430.2	431.2	430.8	428.5
140°	446.2	451.0	453.7	453.7	451.6
142.5°	467.6	472.3	473.9	474.4	472.3
145°	487.8	491.6	494.7	495.2	493.1
147.5°	505.9	510.7	513.0	513.9	511.8
150°	524.6	527.8	529.9	531.6	529.9
152.5°	541.2	544.4	547.1	549.2	547.1
155°	557.8	559.3	561.0	563.7	562.0
157.5°	572.1	573.2	574.2	578.0	575.3
160°	584.9	586.0	586.6	589.8	587.5
162.5°	596.7	596.7	597.2	600.9	598.2
165°	606.8	606.2	606.2	610.0	607.4
167.5°	615.9	614.2	614.2	618.0	615.4
170°	622.8	621.3	620.7	624.5	621.3
172.5°	627.6	626.0	625.5	629.3	626.0
175°	631.4	629.9	628.7	632.5	629.3
177.5°	633.5	632.0	630.8	634.0	630.8
180°	632.5	632.5	632.5	632.5	632.5

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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	14.19	15.31	14.91	16.06	16.95	13.77	14.89	14.49	15.63	16.52
	3H	15.85	16.86	16.58	17.61	18.53	15.38	16.40	16.12	17.15	18.07
	4H	16.43	17.38	17.19	18.15	19.08	15.97	16.92	16.73	17.69	18.62
	6H	16.82	17.71	17.59	18.48	19.42	16.36	17.25	17.13	18.02	18.96
	8H	16.93	17.77	17.71	18.56	19.51	16.47	17.31	17.25	18.10	19.05
	12H	16.98	17.78	17.76	18.56	19.54	16.51	17.31	17.30	18.10	19.07
4H	2H	14.67	15.63	15.43	16.39	17.32	14.33	15.29	15.09	16.05	16.98
	3H	16.54	17.33	17.31	18.13	19.08	16.15	16.95	16.92	17.75	18.69
	4H	17.24	17.97	18.03	18.76	19.74	16.85	17.57	17.63	18.37	19.35
	6H	17.75	18.38	18.55	19.20	20.18	17.35	17.98	18.16	18.80	19.79
	8H	17.89	18.48	18.70	19.30	20.29	17.50	18.08	18.30	18.90	19.90
	12H	17.97	18.50	18.80	19.34	20.34	17.56	18.09	18.39	18.93	19.93
8H	4H	17.45	18.04	18.26	18.85	19.85	17.10	17.68	17.90	18.50	19.50
	6H	18.06	18.55	18.90	19.41	20.41	17.71	18.20	18.55	19.06	20.06
	8H	18.27	18.70	19.12	19.56	20.57	17.91	18.35	18.76	19.21	20.22
	12H	18.40	18.78	19.25	19.63	20.70	18.03	18.41	18.88	19.26	20.33
12H	4H	17.44	17.97	18.27	18.81	19.81	17.10	17.63	17.93	18.47	19.47
	6H	18.09	18.52	18.94	19.38	20.39	17.75	18.18	18.60	19.04	20.05
	8H	18.33	18.71	19.18	19.56	20.63	17.98	18.36	18.83	19.21	20.28